Harpers Ferry National Historical Park
Harpers Ferry, West Virginia

National Park Service
U.S. Department of the Interior

Draft
General Management Plan / Environmental Impact Statement

August 2008

Draft
General Management Plan / Environmental Impact Statement
Harpers Ferry National Historical Park
Jefferson County, West Virginia; Loudoun County, Virginia; and Washington County, Maryland

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Harpers Ferry National Monument was authorized by an act of Congress on June 30, 1944, and became Harpers Ferry National Historical Park on May 29, 1963. The last comprehensive management plan for the national historical park was completed in 1980. Much has changed since 1980 — visitor use patterns and types of use have changed, people want to bring new recreational activities to the national historical park, and an additional 1,240 acres were authorized for addition to the national historical park in 2004. Each of these changes has implications for how visitors access and use the national historical park and the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations.

This document examines three alternatives for managing Harpers Ferry National Historical Park for the next 20 years. It also analyzes the impacts of implementing each of the alternatives. The **"no-action" alternative (alternative 1),** continues existing NPS management and trends and serves as a basis for comparison in evaluating the other alternatives. In Alternative 2 Harpers Ferry National Historical Park would present 250 years of history at the site through exhibits at a new visitor center that provides an orientation to the site and encourages visitors to explore areas of the park that illustrate themes in park history. The park would be more easily accessible by round-the-park trail and an expanded transportation system that reaches most park locales in West Virginia. Park staff would bring life to the park by scheduling more festivals, events, and tours, and increasing the visibility of national historical park staff. Park offices would remain on Camp Hill in historic structures and a satellite maintenance facility would be constructed somewhere near the Murphy Farm or Schoolhouse Ridge to obviate the need for enlarging the existing facility. A public/private consortium would be sought to rehabilitate the historic Shipley School. In Alternative 3, Harpers Ferry National Historical Park would become a gateway to the West Virginia, Maryland, Virginia region as well as the park through a cooperative visitor center complex at Cavalier Heights. Through the use of partners and concessioners the park would increase its ability to bring life and activity to all areas of the park. This partnership would allow additional interpretation, preservation of additional historic resources, and maintenance of facilities as well as a seamless transportation system that serves both the park and the local community. A round-the-park trail would also connect the park to the regional trail system. A new headquarters building and maintenance facility would be constructed outside Camp Hill to allow restoration of the historic structures for interpretive purposes and the landscape to the Storer College period. The Shipley School would be removed and the site landscaped.

The **no-action alternative** would result in the eventual preservation and maintenance of historic structures, the preservation of archeological resources that would otherwise be lost due to use or development, and the identification and preservation of cultural landscapes. Alternative 1 would have a minor adverse impact on the gateway communities, a long-term negligible impact on the regional economy, and a minor adverse impact on NPS staff and the maintenance of the national historical park. A**lternative 2** would have a more beneficial impact on the gateway communities and regional economy through enhanced educational and recreational opportunities for visitors and an expanded bus service increasing visitation to all areas of the national historical park. **Alternative 3** would place more emphasis on inviting local business and public/ private organizations into the national historical park as partners or concessioners. By enhancing partnership opportunities, there would be a long-term minor to moderate beneficial impact on visitor experience and long-term minor beneficial impacts on NPS management.

This *Draft General Management Plan / Environmental Impact Statement* has been distributed to other agencies and interested organizations and individuals for their review and comment. The public comment period for this document will last for 60 days after the Environmental Protection Agency's notice of availability has been published in the *Federal Register*. Readers are encouraged to send comments on this draft plan to the National Park Service Planning, Environment and Public Comment (PEPC) website at <http://parkplanning.nps.gov> (see accompanying transmittal letter). Comments may also be sent to: Superintendent, Harpers Ferry National Historical Park, National Park Service, P.O. Box 65, Harpers Ferry, WV 25425. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment — including your personal identifying information — may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

U.S. Department of the Interior • National Park Service

SUMMARY

Harpers Ferry National Monument was authorized by an act of Congress on June 30, 1944, and became Harpers Ferry National Historical Park on May 29, 1963 (Public Law 78-386).

The last general management plan for the national historical park was completed in 1980. Much has changed since 1980 — visitor use patterns and types of use have changed, people want to bring new recreational activities to the national historical park, and an additional 1,240 acres was authorized for addition to the national historical park in 2004. Each of these changes has implications for how visitors access and use the national historical park and the facilities needed to support those uses, how resources are managed, and how the National Park Service (NPS) manages its operations. A new plan is needed to:

> Clearly define resource conditions and visitor experiences to be achieved in Harpers Ferry National Historical Park.
>
> Provide a framework for NPS managers to use when making decisions about how to best protect national historical park resources, how to provide a diverse range of visitor experience opportunities, how to manage visitor use, and what kinds of facilities, if any, to develop in the national historical park.
>
> Ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action.

This *Draft General Management Plan / Environmental Impact Statement* presents three alternatives, including the National Park Service's preferred alternative, for future management of Harpers Ferry National Historical Park. The alternatives, which are based on the national historical park's purpose, significance, and special mandates, present different ways to manage resources and visitor use and improve facilities and infrastructure at the national historical park. The three alternatives are the no-action alternative (continue current management), alternative 2 (the NPS preferred alternative), and alternative 3.

Additional actions and alternatives were considered. However these actions and alternatives were dismissed from further analysis. These dismissed actions and alternatives are presented, along with rationale for dismissing them from analysis, in the "Alternatives, Including the Preferred Alternative" chapter (see page **Error! Bookmark not defined.**).

ALTERNATIVE 1: THE NO-ACTION ALTERNATIVE (CONTINUE CURRENT MANAGEMENT)

Under the no-action alternative, Harpers Ferry National Historical Park would continue the current management strategies and practices now in place. Management would continue to follow the intent and spirit of the 1980 *Development Concept Plan,* the last parkwide plan. There would be no change in facilities beyond regular maintenance and projects already initiated. Visitors would not notice any changes in appearance or operations because management would continue to offer the same visitor experiences and preserve the national historical park's existing cultural, natural, and scenic values. No action does not imply or direct the discontinuation of any existing programs or services.

Continuing existing management conditions and trends (alternative 1) would result in a

number of impacts: inefficient staff offices that are dispersed in historic structures throughout the national historical park, a continuing lack of activity and "life" in Lower Town, a mainly self-guided pedestrian experience with a lack of amenities (trails, restrooms, drinking water) at many park locations, and inadequate visitor orientation/information facilities.

Overall impacts on historic structures, archeological resources, and cultural landscapes would not be adverse. No impacts on natural resources (water, floodplains, soils, cave and karst resources, vegetative communities, fish and wildlife, special status species, soundscapes, or lightscapes) above the level of minor impact were identified. A minor adverse impact on the visitor experience would continue. A minor long-term adverse impact on the gateway communities, a long-term negligible adverse impact on the regional economy, and a minor long-term adverse impact on NPS operations were also identified.

ALTERNATIVE 2 (PREFERRED ALTERNATIVE)

Each of the action alternatives (alternatives 2 and 3) presents a scenario for management and development of Harpers Ferry National Historical Park. This vision is a possible future but depends upon the availability of funding to make it a reality. Selection of a preferred alternative does not guarantee that funding will become available for implementation.

Alternative 2, the National Park Service preferred alternative, would provide greater visitor enjoyment, increased access to park locales, more varied interpretation, and new life and excitement to Harpers Ferry National Historical Park.

Under alternative 2, visitors would enter Harpers Ferry National Historical Park at Cavalier Heights where a visitor contact station would be enlarged to function as a visitor center. This facility would provide orientation for park visitors and information on the park's many resources. It would be the starting point for an expanded transportation system that would allow visitors to reach areas of the park such as the Murphy Farm, Schoolhouse Ridge and Camp Hill that were previously difficult to access without a car. It would also be a stop on the new around-the-park trail that would allow visitors to hike to all areas of the park.

Leaving their personal vehicles at Cavalier Heights, visitors could ride the transportation system to Lower Town where visitors would be immersed in a 19th century environment. Preserved historic buildings, period shops, exhibits, and outdoor furnishings would complement the interpretation provided by rangers and possible period artisans/demonstrators that would bring life to this area. Traveling exhibits would be sought to supplement interpretation provided within the park. A smaller information center and bookstore would remain but possibly in new locations. Park artifact storage would be removed from the historic structures and the space converted to office use or other types of storage.

The Federal Armory would retain its current access. A study of the feasibility of returning John Brown's Fort to its original location would be undertaken. The train station would become a secondary portal to the site with proposed excursion trains arriving from Washington several days of the week.

The armory canal would be restored and rewatered with the turbine also restored for interpretive purposes. The power plant would be rehabilitated for exhibits.

Virginius and Halls Islands would be preserved as an archeological preserve with ruins stabilized and outlined and wayside exhibits explaining the history and industrial development that was here.

Camp Hill would be managed with a campus atmosphere reminiscent of the Storer College era. Additional signs and waysides would allow visitors to get the feel of the site. Museum exhibits now in Lower Town would be moved to one or more of the Storer College structures to better explain the importance of Harpers Ferry to the story of the civil rights movement in America. Several historic buildings from the military occupation of Camp Hill would be restored and adaptively used for park headquarters. The historic Shipley School on Camp Hill would be made available for rehabilitation by a proposed public/private partnership to allow its preservation and use.

The historic Grandview School would be rehabilitated and enlarged for use by the park's protection division.

The Nash farm would be preserved as a dairy farm of the 1940s with its structures adapted for use as an environmental education center and outdoor laboratory managed by the National Park Service or an affiliated organization.

Bolivar Heights would be actively managed to maintain a battlefield landscape appearance. Occasional programs would be supplemented by new signs and wayside exhibits. Restrooms, an enlarged parking area, and drinking water would be provided.

At the Murphy farm, the civil war earthworks and the foundations of John Brown's fort would be stabilized, and the Chambers/Murphy house studied to determine the best use for it. A bus stop and trail to the earthworks and foundations would be developed. Restrooms and drinking water would also be developed at the site.

Schoolhouse Ridge would also be managed as a battlefield landscape with agricultural leases helping to maintain the 1862 appearance. The nonhistoric campground would be removed and the Harpers Ferry Caverns restored to a more natural appearance. Nonhistoric structures would be removed. Onsite interpretation and occasional demonstrations with a military focus would be provided. Bus parking and trails would be developed. A possible tunnel under route 340 would be developed in consultation with the State to facilitate the round-the-park trail. Schoolhouse Ridge would also be a likely location for a satellite maintenance facility easing pressure to enlarge the existing facility on Camp Hill.

At the Potoma Wayside upgraded takeout facilities would be developed to facilitate river use. The takeout would be hardened and restroom facilities provided. To the extent possible, parking would also be upgraded. Interpretation would be provided by the concessioner.

On Loudoun Heights the Sherwood House would be removed and the site developed as a Civil War overlook. All Civil War camps and earthworks would be stabilized as necessary. The majority of the site would be maintained for its natural resources. Short Hill would be managed similarly.

Maryland Heights would undergo stabilization of earthworks and fortifications as necessary and restoration of line of fire vistas. Historic roads would continue to be used and maintained. A higher level of interpretation would be achieved through wayside exhibits, site brochures and occasional ranger-guided hikes.

Alternative 2 would result in the following impacts: continuation of dispersed NPS headquarters among several buildings, the rehabilitation of the historic Shipley school or site, an overall increased preservation of national historical park historic resources, a consolidated visitor center on Cavalier Heights providing information/orientation/ education before entry into the historic areas, increased bus and trail access to other national historical park locations for visitors,

greatly improved visitor experiences both in Lower Town and elsewhere within the national historical park, additional visitor amenities (trails, restrooms, and drinking water) at some locations, and increased educational opportunities at an environmental education center at the Nash Farm.

Overall impact on historic structures, archeological resources, and cultural landscapes would not be adverse. No impacts on water resources, floodplains, soils, vegetative communities, fish and wildlife, or lightscapes would be expected to have more than a minor impact. A minor to moderate beneficial impact on cave resources, no impact on special status species, and a minor adverse impact on state-listed species would be expected. Both short-term minor to moderate adverse impacts and long-term moderate beneficial impacts on soundscapes were identified. A minor to moderate beneficial impact on the visitor experience and short-term minor adverse/long-term minor beneficial impacts on NPS operations would be expected. Implementing alternative 2 would have a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy.

ALTERNATIVE 3

Alternative three provides a similar park experience but depends more on partnerships with businesses and organizations to make it happen. Visitors would enter Harpers Ferry National Historical Park at a new combined park/regional visitor center on Cavalier Heights serving both the national historical park and the surrounding region. Information on other activities or attractions in the Harpers Ferry area would also be available in a jointly run facility. Park visitors and the local community could both take advantage of the expanded transportation system that would form a loop through Harpers Ferry and Bolivar. That system would be smaller than the system in alternative 2 and would not provide access to the less visited areas of the park. Cavalier Heights would also be a stop on the round-the-park trail that would provide connections to the greater trail systems being developed in the tri-state region.

As with alternative 2 visitors would take the park transportation system to Lower Town where historic buildings would be preserved and private businesses would provide much of the interest and excitement by selling period goods and services. Visitors could watch as artisans and craftspeople make items for sale. Reproduced period sounds, backyard vignettes and programs along with store personnel in period dress would help to set the stage for visitors. Much of the interpretation in Lower Town could be done by the store owners as a part of their operation. Special programs and demonstrations could have a fee requirement. Park artifact storage would be removed from the historic structures and the space converted to leased office space or business storage if the need is identified.

The Federal Armory would be accessible by a new trail, possibly along the river wall, with a viewing platform on the railroad embankment providing an overview of the site for the disabled. As with alternative 2, the train station could become a secondary portal to the site should excursion trains prove feasible. No study of returning John Brown's fort to its original location would be undertaken.

The armory canal would be restored but not rewatered. Visitors would be able to walk a trail down into the canal from end to end. The power house could become a facility for training in preservation methods possibly managed by the Historic Preservation Training Center or used by that center while working in the Harpers Ferry National Historical Park.

Virginius and Halls Islands would be managed similarly to alternative 2 with archeological

resources outlined and interpreted through wayside exhibits and signs. A stop on the transportation system route would allow easier access to the islands near the old pulp mill.

Camp Hill would be managed with a campus atmosphere reminiscent of the Storer College era. Additional signs and waysides would allow visitors to get the feel of the site. Museum exhibits now in Lower Town would be moved to one or more of the Storer College structures to better explain the importance of Harpers Ferry to the story of the civil rights movement in America. Several historic buildings from the military occupation of Camp Hill would be restored for exhibits. Park headquarters would then move out of these structures into a new headquarters building elsewhere within the national historical park. The Shipley School on Camp Hill would be made available for rehabilitation by a proposed public/private partnership to allow its preservation and use. The park maintenance operation would be removed from Camp Hill and replaced with a leased facility somewhere outside the park boundary.

As with alternative 2, the Grandview School would be rehabilitated and enlarged for use by the park's protection division.

The Nash Farm would be preserved as a dairy farm of the 1940s with its structures adapted for use by an independent educational organization dedicated to an environmental ethic.

Bolivar Heights would be maintained under a formal cooperative agricultural lease designed to maintain its open battlefield character. Regularly scheduled fee-based living history programs would be provided by partner-entities. New interpretive signs and waysides would be installed and restrooms and potable water provided.

The Chambers/Murphy farmhouse would either be leased out as a bed and breakfast operation or be rehabilitated for exhibits. The John Brown Fort foundations would be stabilized, as would the civil war earthworks on the site. A trail, potable water, and restroom facilities would be provided.

Schoolhouse Ridge would be managed similarly to alternative 2. Agricultural leasing would help to keep the general 1862 landscape appearance. The campground would be removed and the Harpers Ferry Caverns restored. Entry to the caverns could be allowed through a permit process. Nonhistoric structures would be removed. Onsite interpretation and programs would be available, conducted by park staff, volunteers, and possibly concessioners. Access would be by personal vehicle only. A possible tunnel under route 340 would be developed in consultation with the State to facilitate the round-the-park trail.

Provide restroom facilities at Potoma Wayside. To the extent possible, parking would also be upgraded. Any interpretation would be provided by the concessioner.

On Loudoun Heights, the Sherwood House would be removed. All Civil War camps and earthworks would be stabilized as necessary. The majority of the site would be maintained for its natural resources. Natural resources research capabilities by other agencies or universities would be encouraged. Short Hill would be managed similarly.

Maryland Heights would undergo stabilization of earthworks and fortifications as necessary and tree removal to provide vistas down onto Harpers Ferry. Historic roads would continue to be used and maintained. The park would work with the state and county to provide more parking along the Harpers Ferry Road.

Alternative 3 would result in the following impacts: a more efficient rehabilitated NPS headquarters, a new emphasis on working with commercial enterprises to lease under-

used historic structures and provide improved/additional visitor interpretation/education as a means of bringing additional life to the national historical park, possible loss of visitor access to some leased structures, rehabilitation of the historic Shipley School through a public-private agreement, the construction of a combined NPS/state visitor center to provide information/orientation for both the national historical park and the region, provision of bus service for better visitor access to Camp Hill, provision of better or additional interpretation of NPS locations outside of Lower Town/Camp Hill, the provision of visitor amenities (trails, restrooms, drinking water) at many new locations, additional educational opportunities at an independently run Educational Institute at Nash Farm, better preservation of collections storage in a new facility, and an overall increase in preservation of national historical park historic resources.

Overall impact on historic structures, archeological resources, and cultural landscapes would not be adverse. No impacts on water, floodplains, soils, cave and karst resources, vegetative communities, fish and wildlife, special status species, or lightscapes would be expected to have more than a minor impact. Both short-term minor to moderate adverse impacts and long-term moderate beneficial impact on soundscapes would be expected. A minor to moderate beneficial impact on the visitor experience, a long-term moderate beneficial effect on the economy of the gateway communities, a long-term minor beneficial effect on the regional economy, and short-term minor adverse/long-term minor beneficial impacts on NPS operations would be expected.

THE NEXT STEPS

After the distribution of the *Draft General Management Plan / Environmental Impact Statement* there will be a 60-day public review and comment period after which the NPS planning team will evaluate comments from other federal agencies, organizations, businesses, and individuals regarding the draft plan and will incorporate appropriate changes into a *Final General Management Plan / Environmental Impact Statement*. The final plan will include letters from governmental agencies, any substantive comments on the draft document, and NPS responses to those comments. Following distribution of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a record of decision approving a final plan will be signed by the NPS regional director. The record of decision documents the NPS selection of an alternative for implementation. Once it is signed, the plan can then be implemented.

IMPLEMENTATION OF THE PLAN

The approval of this plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. The implementation of the approved plan will depend on future funding, and it could also be affected by factors such as changes in NPS staffing, visitor use patterns, and unanticipated environmental changes. Full implementation could be many years in the future. Once the *General Management Plan* has been approved, additional feasibility studies and more detailed planning, environmental documentation, and consultations would be completed, as appropriate, before certain actions in the preferred alternative can be carried out.

Future program and implementation plans, describing specific actions that managers intend to undertake and accomplish in the national historical park, will tier from the desired conditions and long-term goals set forth in this general management plan.

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GUIDE TO THIS PLAN

This *Draft General Management Plan / Environmental Impact Statement* presents and analyzes three alternative future directions for the management and use of Harpers Ferry National Historical Park. Alternative 2 is the National Park Service's preferred alternative. The potential environmental impacts of all alternatives have been identified and assessed.

General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in the national park system units. General management plans usually provide guidance during a l5- to 20-year period.

Actions directed by general management plans or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future. However, it should be understood that all actions are subject to funding and may never be implemented.

This *Draft 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 NPS *Management Policies 2006* and Director's Order #12, "Conservation Planning, Environmental Impact Analysis, and Decision Making."

Chapter 1: Purpose and Need for the Plan sets the framework for the entire document. It describes why the plan is being prepared and what needs it must address. It gives guidance for the alternatives that are being considered, which are based on the national historical park's legislated mission, its purpose, the significance of its resources, special mandates and administrative commitments, service-wide mandates and policies, and other planning efforts in the area.

The chapter also details the planning opportunities and concerns that were raised during initial public meetings (referred to as "scoping" meetings throughout this document) and initial planning team efforts; the alternatives in the next chapter address these issues and concerns to varying degrees. This chapter concludes with a statement of the scope of the environmental impact analysis — specifically what impact topics were or were not analyzed in detail.

Chapter 2: Alternatives, Including the Preferred Alternative, begins by describing the management prescriptions that will be used to manage the national historical park in the future. (Management prescriptions are general directions or guides for management of resources, interpretation, and appropriateness of facilities within certain areas of the national historical park). Chapter 2 also describes current management and trends in the national historical park (alternative 1, the no-action alternative). Then alternatives 2 (the preferred alternative) and 3 are presented. Mitigation measures proposed to minimize or eliminate the impacts of some proposed actions are described just before the discussion of future studies and/or implementation plans that will be needed. The evaluation of the environmentally preferred alternative is followed by summary tables of the alternative actions and the environmental consequences of implementing those alternative actions. The chapter concludes with a discussion of alternatives or actions that were dismissed from detailed evaluation.

Chapter 3: the Affected Environment describes those areas and resources that

would be affected by implementing actions in the various alternatives, such as cultural resources, natural resources, visitor use and experience, NPS operations, and socioeconomic environment.

Chapter 4: Environmental Consequences analyzes the impacts of implementing the alternatives on topics described in the "Affected Environment" chapter. Methods that were used for assessing the impacts in terms of the intensity, type, and duration of impacts are outlined at the beginning of the chapter.

Chapter 5: Consultation and Coordination describes the history of public and agency coordination during the planning effort. It also lists agencies and organizations who will be receiving copies of the document.

The **Appendixes** present supporting information for the document, along with references, and a list of the planning team and other consultants.

Chapter 1
Purpose of and Need For the Plan

INTRODUCTION

BACKGROUND AND HISTORY

Harpers Ferry National Historical Park lies at the confluence of the Potomac and Shenandoah rivers, where the states of West Virginia, Virginia, and Maryland converge (see Vicinity and Regional maps). Historic Lower Town is at the point of the peninsula formed by the two rivers. The national historical park was established primarily to preserve historic resources and to commemorate the historic events that occurred at Harpers Ferry for the benefit and enjoyment of all people.

Harpers Ferry National Monument was authorized by Congress in 1944 (PL 78-386). The name was later changed to national historical park in 1963. Today, the national historical park contains 3,645 acres, with most of it in West Virginia, but with other sections in Maryland and Virginia.

During its earliest period the town of Harpers Ferry was an important manufacturing and commercial town, using the two rivers for water power and transportation. The Federal Armory was established on June 15, 1796, by President George Washington. When production began in 1801, it became the nation's second Federal Armory.

By the 1850s, Harpers Ferry had become militarily significant because of the U.S. Armory and Arsenal and geographically significant due to the B&O Railroad and C&O Canal.

In 1859 Harpers Ferry was the scene of the electrifying John Brown Raid, a significant event in the days leading up to the Civil War. Strategically important, due to its location at the gateway into the Shenandoah Valley, Harpers Ferry changed hands officially eight times during the war. The town's capture by Confederate troops under the command of "Stonewall" Jackson in 1862, together with 12,693 surrendered Union soldiers, was a dramatic prelude to the great battle at Antietam Creek that ended the South's first invasion of the North. It was the largest number of Union soldiers surrendered during the Civil War.

The Union army quickly reoccupied Harpers Ferry and in 1862-64 converted the position into a fortress with strong field fortifications overlooking the town on the summits of Bolivar Heights, Loudoun Heights, and Maryland Heights. In July 1864, the Union Army repelled an attack here by Lt. General Jubal Early's Confederate army. This four-day operation and the later battle at Monocacy Junction delayed the Confederate army enough to allow the Union to reinforce Washington and stave off its capture.

From August 1864 to December 1864, Harpers Ferry served as the main base of operations and chief supply depot for Major General Philip S. Sheridan's Union army during the final campaign in which Sheridan successfully destroyed Early's army as a fighting force and conquered the Shenandoah Valley in Virginia for the Union.

By the end of the Civil War, Harpers Ferry was a ghost of the former town. Mills on Virginius Island and the U.S. arms manufacturing plants on Lower Hall's Island and in the Musket Factory yard along the Potomac were largely destroyed. The United States Government decided not to rebuild the Armory at Harpers Ferry and to dispose of its lands and ruined buildings. In part because of these decisions, the town of Harpers Ferry never fully recovered its industrial importance.

The final events of national significance to take place at Harpers Ferry occurred during the period 1865-1955 and relate to black history and education and the Niagara Movement. These were related to the founding and operation of Storer College.

Established through the efforts of the U.S. Freedman's Bureau, the Freewill Baptist denomination, and a New England philanthropist named John Storer, the school was one of the first to provide education for freed slaves. It was chartered as an integrated institution, a symbol of freedom through education, and a symbol of what John Brown had hoped to achieve. Among the first trustees was Frederick Douglass. It was the location of the second meeting of the Niagara Movement in 1906, an event of great importance in the later establishment of the National Association for the Advancement of Colored People (NAACP).

Today the national historical park consists of portions of the Lower Town, the former Storer College campus, landscapes associated with the national historical park's Civil War significance, and lands preserving the historic viewshed down the Potomac River.

KEY AREAS IN THE NATIONAL HISTORICAL PARK

The story of Harpers Ferry National Historical Park can be found in numerous locations throughout the national historical park (see Park map). For purposes of the *General Management Plan,* place names will be used for these areas for discussion of actions specific to each area. They are place names commonly used by NPS staff to identify locales in the national historical park and are based on the region's historic antecedents, natural resources, and visitor use. They have been designated for purposes of this plan and are not formal districts of the national historical park.

These areas are static and will not change from alternative to alternative. They should not be confused with management zoning. Zones would be applied under each alternative but may change based on alternative concepts.

Lower Town

This area extends from the eastern end of Virginius Island on the Shenandoah side, beginning approximately at the Shenandoah Canal east to the confluence with the Potomac extending north to the CSX railroad line (the historic Winchester and Potomac). The heart of Lower Town is formed by the concentration of historic buildings and landscape features along Shenandoah Street from Potomac Street, west along Hog Alley, to High Street. At High Street the boundary roughly proceeds north to the intersection with Public Way then back south to the stone steps trail to St. Peters Catholic Church at Church Street then wrapping around the area of Harper Yard. The Lower Town area is closed at the "back" of the hillside as it drops down to Shenandoah Street at the Shenandoah Canal (see Lower Town map).

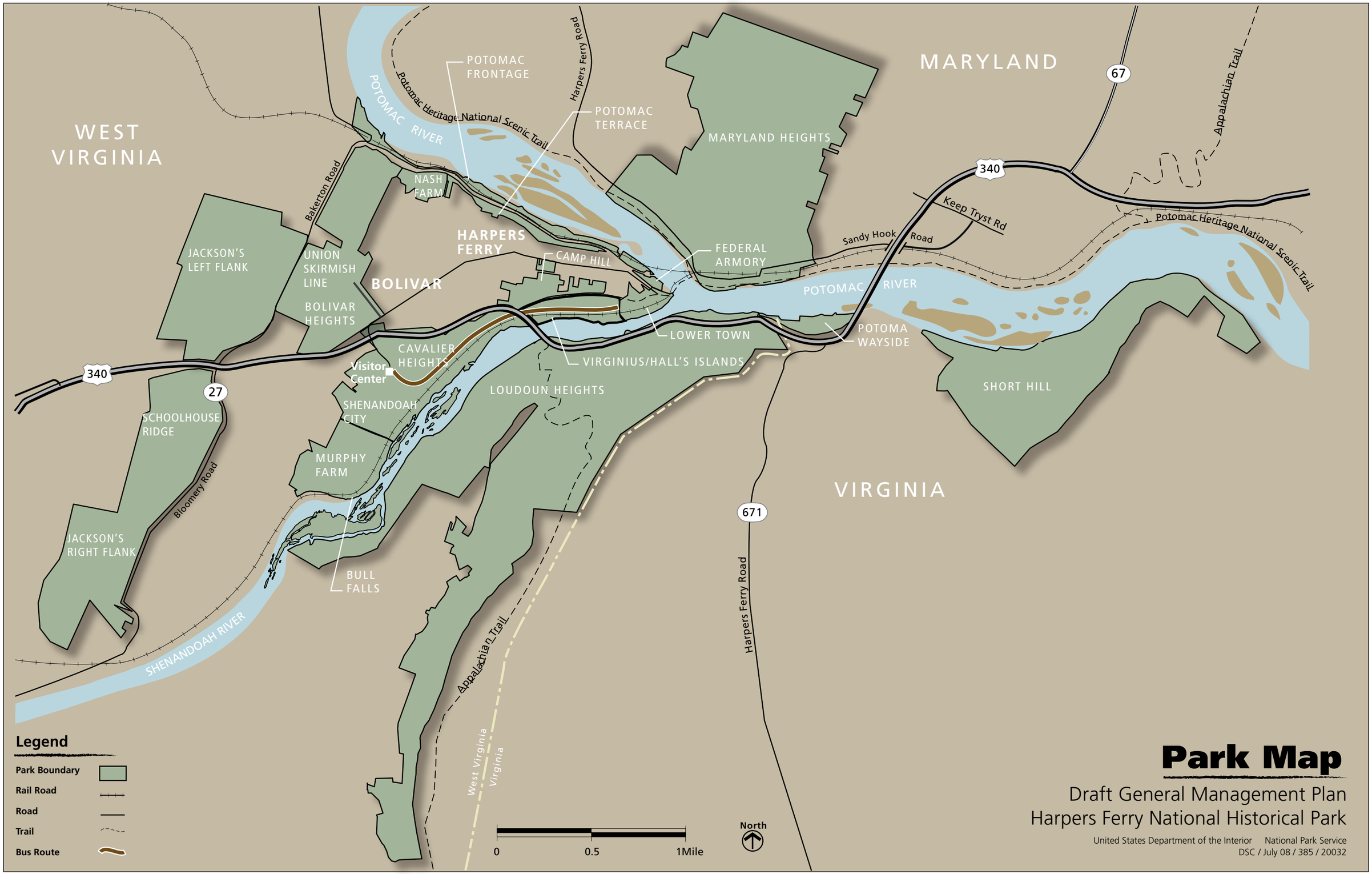
The Hillside is a landscape of resources containing remnant walls, foundation ruins, including the structural ruins of the Episcopal Church, and the trail connecting Lower Town and Camp Hill through Harper Cemetery. The hill also functions as a buffer and boundary element defining the transition between Lower Town and Camp Hill. Jefferson Rock is on the hill within the Lower Town area along the trail passing St. Peters Catholic Church between Camp Hill and Lower Town.

Federal Armory

This area lies adjacent to the Potomac River reaching up from its banks to Potomac Street, and extends from the modern CSX railroad line near the Point, upriver to the Potomac Power Hydroelectric Plant. The Baltimore & Ohio train station is within the limits of the armory area. This is one of the most significant historic areas within the boundaries of the national historical park.

Region Map

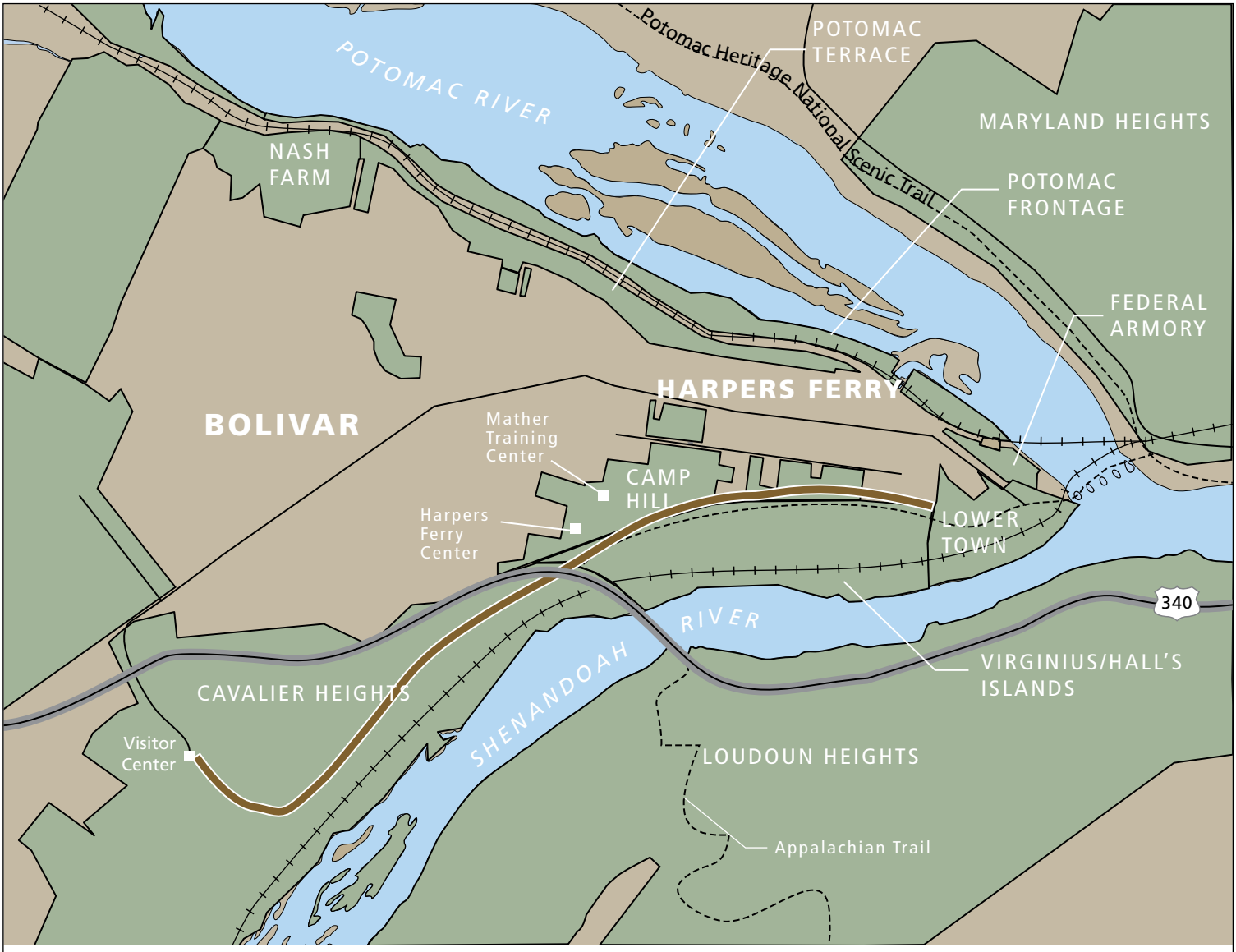
United States Department of the Interior
National Park Service
DSC / July 08 / 385 / 20031



Park Map

Draft General Management Plan
Harpers Ferry National Historical Park

United States Department of the Interior National Park Service
DSC / July 08 / 385 / 20032



North

Legend

- Park Boundary
- Rail Road
- Road
- Trail
- Bus Route

Lower Town

Draft General Management Plan
Harpers Ferry National Historical Park

United States Department of the Interior ■ National Park Service
DSC / July 08 / 385 / 20033

Potomac River Frontage

The Potomac River frontage is adjacent to the Potomac River from its banks to the base of the bluff. This area continues up-river from the power plant at the end of the armory up to, and including, the dam and headgate at the west end. The Armory canal, within the limits of the frontage runs the length of the frontage.

Virginius Island

Virginius Island is the historically heavily developed industrial site adjacent to the Shenandoah River on the south side of Harpers Ferry. Although no longer an island, it was created when a canal system was developed to provide water power for the industry on the island. Mostly reclaimed by nature, today the outlines of the island can be traced by the remnants of the Shenandoah Canal on the north and east, where it angles out to the Shenandoah River. In modern times the island continues almost seamlessly as a "unit" to include the historic Hall's Island upriver approximately to the modern-day bridge crossing of U.S. 340.

Hall's Island

At one time Hall's Island (at the west end of Virginius Island) was several islands and primarily two islands — Upper and Lower Hall's Island — separated from Virginius Island by man-made canals. These areas, along the banks of the Shenandoah River, contained the industrial workshops of John Hall and later the U.S. Rifle Factory. Today Hall's Island is identified as beginning at the ruined locks (nos. 4 & 5) in the remnant Shenandoah Canal and extending upriver to approximately the modern day U.S. 340 bridge crossing.

Camp Hill

Camp Hill is so-named because U.S. Army regiments camped on this hill above Lower Town in 1798-99. It is primarily a residential area bordered by Union Street to the west, Fillmore Street on the north, and the 4-acre Harper's Graveyard to the east. It maintains a historic quality with many historic structures dating from the antebellum period to after the turn of the century. It is in this area that Storer College, with several buildings used first by the military and later for various college functions, is located. It also consists of the wooded slope containing a stretch of the Appalachian Trail. In general the area today has a mixed residential ambiance with several buildings used for NPS administrative purposes.

Loudoun Heights

The mountainous and forested land lies along the south side of the Shenandoah River extending from its banks to the top of the ridge, across from the town, and stepping down to the river as it proceeds upstream. Loudoun Heights was logged by the Harpers Ferry Armory during the first half of the 19th century, virtually clearing away the forest. It was fortified and encamped on during the Civil War.

Maryland Heights

Maryland Heights is north of the Potomac River over looking Harpers Ferry and providing the most picturesque views of the town. At its base is the C & O Canal. The mountain includes numerous Union fortifications used during the Civil War and the ridge top is part of the 1862 Battle of Harpers Ferry. With its rock outcroppings and steep wooded slopes, it is the highest of the three ridges surrounding the town.

Short Hill

Short Hill is the easternmost area of the national historical park. It is on the south side of the Potomac River and downstream from Harpers Ferry. It is primarily an area of wooded slopes, shoreline, trails, and historic ruins, including the Peachers Mill complex adjacent to the river.

Cavalier Heights

Cavalier Heights is an area of relatively undeveloped land southwest of the town of Bolivar, extending down the bluff to Shoreline Drive and the banks of the Shenandoah River. The area was considered suitable land for development of a visitor center and was acquired to possibly consolidate the scattered functions of the Harpers Ferry Center, as well as visitor parking and possible maintenance functions.

Bolivar Heights (including Elk Run Natural Area)

This linear ridge, 1 mile west of Harpers Ferry, witnessed more Civil War battlefield action than any other area within the national historical park. It constituted the principal Union battle line during the September 1862 Battle of Harpers Ferry. It also hosted battle actions in October 1861, May 1862, June 1863, and July 1864. Bolivar Heights also was the site of Union and Confederate encampments. Artillery redoubts and infantry entrenchments still remain across the crest of the ridge.

Union Skirmish Line

The Skirmish Site, more recently known as the Hillside Fruit Farm, is along State Secondary Route 27 (also known as Bloomery/Bakerton Roads). Fronting on the west side of the road, the area sits on the west-facing slope of Bolivar Heights, facing the Schoolhouse Ridge to the west.

Schoolhouse Ridge

Schoolhouse Ridge was Stonewall Jackson's main battle line during the 1862 Battle of Harpers Ferry. It parallels Bolivar Heights, located approximately 1,000 yards west, and it fronts along State Secondary Route 27 (Bloomery/Bakerton Roads). Its north and south sections are separated by U.S. 340.

Murphy Farm

The Murphy Farm (Chambers Farm 1848-1869) sits on a bluff overlooking Bull Falls on the Shenandoah River. The land was first developed as a farm in 1848 and later, during the Civil War, became an important position for the Confederates, whose success forced the Union to surrender on Bolivar Heights. Earthworks associated with the Civil War are preserved on the farm. The farm also marks one of the former locations of the John Brown Fort. The fort was relocated to the Murphy Farm in 1895 after having been displayed at the 1893 World's Columbian Exposition in Chicago.

Nash Farm

The Nash Farm consists of approximately five contiguous town lots in a relatively undeveloped section in the northwest corner of the town of Harpers Ferry. Surrounded by wooded lots, the Nash Farmstead was developed during the first quarter of the 20th century. The property is on a grassy hill overlooking the Potomac River.

Potomac Terrace

Potomac Terrace is a natural area of steep contours rising from the river frontage to the top of the bluff to the towns of Harpers Ferry and Bolivar. The area is one of dense understory vegetation with a relatively open timbered upper story of second- and third-growth hardwood trees.

Shenandoah City

This area contains numerous but undetermined numbers of structural foundations, including the Strider Mill complex and undisturbed natural areas. It is primarily in the bottomland environment on the bank of the Shenandoah River at the base of a ravine formed between the bluff underlying Cavalier Heights and the Murphy Farm.

Potoma Wayside

This area is a moderately developed highway pull-off on U.S. 340 at the eastern base of Loudoun Heights. The area is mostly used as a takeout access for whitewater rafters and canoeists on the Potomac River. It is a heavily wooded natural wetland area subject to seasonal flooding.

Bull Falls Area

This area is situated below the Murphy Farm on the Shenandoah River Terrace but also extends into the river falls that gives the area its name. It is an area of densely overgrown vegetation occasionally used for canoe and fishing access.

OTHER NPS SITES OR FACILTIES IN THE HARPERS FERRY AREA

Appalachian National Scenic Trail

The Appalachian National Scenic Trail is a trail that follows the Appalachian Mountains from Mount Katahdin, Maine, through New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Maryland, West Virginia, Virginia, Tennessee, and North Carolina, to Springer Mountain, Georgia. Its length is roughly 2,150 miles. It is also a unit of the national park system with headquarters in Harpers Ferry, West Virginia.

The national scenic trail travels down from South Mountain in Maryland, follows the Chesapeake and Ohio Canal National Historical Park west to Lock 32, then crosses the railroad bridge over the Potomac River, and enters the Harpers Ferry National Historical Park in Lower Town. From Lower Town, the trail follows a route up along the escarpment on Camp Hill above the Shenandoah River, then crosses the Shenandoah River on the U.S. 340 bridge, and climbs up Loudon Heights where it exits the national historical park.

Harpers Ferry is a major destination along the Appalachian Trail. At approximately its half-way point, it is here hikers find the headquarters for the nonprofit Appalachian Trail Conservancy whose members built and maintained the trail. The Appalachian Trail Park Office (NPS headquarters for the trail), is also located here. While in the national historical park, trail hikers are able to take advantage of the Trail Store run by the conservancy where books and other items are sold and questions can be answered about the route and its amenities.

While in Harpers Ferry, the Appalachian Trail traverses dedicated trail, city streets, and sidewalks. Hikers can avail themselves of a

shower, motel room, restaurants, or equipment sales should they so choose.

Potomac Heritage National Scenic Trail

The Potomac Heritage National Scenic Trail is a partnership to develop and maintain a network of locally managed trails for recreation, education, transportation, and health in a 425-mile corridor between the Chesapeake Bay and the Allegheny Highlands. Legislation for the trail, a 1983 amendment to the National Trails System Act, assigns responsibilities for development and management of trail segments outside federally managed lands to local and state agencies and precludes the designation of trail segments in West Virginia. The National Park Service is responsible for administration of the trail corridor designation and assists various trail interests with coordination and with some technical and funding support.

As of June 2006, 13 trails are currently recognized as segments of the Potomac Heritage National Scenic Trail:

- the Chesapeake and Ohio Canal Towpath
- the Mount Vernon Trail and the Potomac Heritage National Scenic Trail in George Washington Memorial Parkway
- the Laurel Highlands Hiking Trail
- the Great Allegheny Passage (connecting Cumberland, Maryland, and Pittsburgh, Pennsylvania)
- the Potomac Heritage National Scenic Trail On-Road Bicycling Route in Prince Georges County, Maryland
- a route in Nanjemoy Natural Resource Management Area, Charles County, Maryland
- a 4.5-mile route in Prince William Forest Park
- 7.7 miles of trails in Riverbend Park, Great Falls Park, and Scott's Run Nature Preserve in northern Fairfax County, Virginia
- a 15-mile linear park system in Loudoun County, Virginia
- Alexandria Heritage Trail in Alexandria, Virginia

Other trails — proposed segments of the national scenic trail — contribute to the "braided" trail concept.

Harpers Ferry serves as a major trailhead for the Trail since many visitors access the C & O Canal Towpath (a segment of the Trail) via the pedestrian bridge across the Potomac River in the Lower Town. Based on legislation for the Trail, lands included within the boundary of Harpers Ferry National Historical Park in Loudoun County, Virginia, could include a segment of the Trail if such segment connected with a land or water trail downstream from Loudoun Heights.

Lewis and Clark National Historic Trail

On March 28, 2003, Harpers Ferry National Historical Park was designated by the National Park Service as an official site on the Lewis and Clark National Historic Trail. The honor recognized the role the U.S. Armory at Harpers Ferry played in outfitting the Lewis and Clark expedition when Meriwether Lewis visited the armory in 1803. The national historical park has a museum, state marker and history trail dedicated to Lewis's visit.

Harpers Ferry Interpretive Design Center

The Harpers Ferry Interpretive Design Center is the NPS central office providing guidance and expertise in the fields of interpretive planning, conservation of objects, museum exhibits, audiovisual programs, graphics research, wayside exhibits, historic furnishings, and publications. The center is housed in a modern office building and several historic structures on Camp Hill under agreement with Harpers Ferry National Historical Park.

Mather Training Center

The Mather Training Center is one of two training facilities the National Park Service uses to train its employees. It is housed on Camp Hill in the former Anthony Hall of Storer College. As with the Interpretive Design Center, the building housing the Mather Training Center is managed under an agreement with Harpers Ferry National Historical Park.

National Capital Region Museum Collection Curatorial Facility

On June 2, 2006 the Director of the National Capital Region approved a plan to develop a curatorial storage facility in the Harpers Ferry region to serve Antietam National Battlefield, Monocacy National Battlefield, Catoctin Mountain Park, the Chesapeake and Ohio Canal National Historical Park, and Harpers Ferry National Historical Park. The plan recommends a facility of unspecified size in an unspecified location, presumably outside the Harpers Ferry National Historical Park boundary.

When completed, collections from each of the park areas would be curated and stored in the facility while remaining available to each park for research and exhibit purposes.

PURPOSE OF THE PLAN

The approved general management plan will be the basic document for managing Harpers Ferry National Historical Park for the next 15 to 20 years. The plan will:

- confirm the purpose, significance, and special mandates of the national historical park
- clearly define resource conditions and visitor uses and experiences to be achieved in the national historical park
- provide a framework for national historical park managers to use when making decisions about protecting park resources, providing quality visitor experiences, managing visitor use, and determining the types and kinds of facilities, if any, to develop in the national historical park
- ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action

Legislation establishing the National Park Service and governing its management provides the fundamental direction for the Administration of Harpers Ferry (and other units and programs of the national park system). This general management plan will build on these laws and the legislation that established Harpers Ferry National Historical Park (see appendix A) to provide a vision for its future. The "Servicewide Mandates and Policies" section calls the reader's attention to topics that are important to understanding the management direction at the national historical park. A table in that section (table 1) summarizes the topics and the conditions to which management is striving. Appendix B lists other laws and executive orders that, as appropriate, must be applied. The alternatives in this general management plan address the desired future conditions that are not mandated by law and policy and must be determined through a planning process.

NEED FOR THE PLAN

This new management plan for Harpers Ferry National Historical Park is needed because the last parkwide planning effort was a general management plan/development concept plan completed in 1980. Much has occurred since then — patterns and types of visitor use have changed, and the boundary has been

expanded to include new resources. Each of these changes has major implications regarding how visitors access and use the national historical park as well as the facilities needed to support those uses, how resources are managed, and how the National Park Service manages its operations.

A general management plan also is needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate development of a general management plan for each unit in the national park system.

THE NEXT STEPS

After the distribution of the *Draft General Management Plan / Environmental Impact Statement* there will be a 60-day public review and comment period after which the NPS planning team will evaluate comments from other federal agencies, organizations, businesses, and individuals regarding the draft plan. Appropriate changes will be incorporated into a *Final General Management Plan / Environmental Impact Statement*. The final plan will include letters from governmental agencies, any substantive comments on the draft document, and NPS responses to those comments. Following distribution of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a record of decision approving a final plan will be signed by the NPS National Capital Regional Director. The record of decision documents the NPS selection of an alternative for implementation. With the signing of the record of decision, the plan can then be implemented.

IMPLEMENTATION OF THE PLAN

Implementation of the approved plan also could be affected by other factors. Once the general management plan has been approved, additional feasibility studies and more detailed planning and environmental documentation would be completed, as required, before any proposed actions could be carried out. For example,

- appropriate permits would be obtained before implementing actions that would impact wetlands,\
- appropriate federal and state agencies would be consulted concerning actions that could affect threatened and endangered species
- appropriate state historic preservation offices (West Virginia, Virginia, Maryland) and certified local governments would be consulted concerning actions that could affect properties on or eligible for inclusion on the National Register of Historic Places

The general management plan does not describe how particular programs or projects should be prioritized or implemented. Those decisions will be addressed during the more detailed planning associated with strategic plans and implementation plans. All of the future more detailed plans will tier from the approved general management plan and will be based on the goals, future conditions, and appropriate types of activities established in the approved general management plan.

The implementation of the approved plan will depend on future funding. Approval of the plan does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the approved plan could be many years in the future.

GUIDANCE FOR THE PLANNING EFFORT

PURPOSE AND SIGNIFICANCE

Purpose

Purpose statements are based on the national historical park's establishing legislation and legislative history and NPS policies. The statements reaffirm the reasons for which the national historical park was set aside as a unit of the national park system. Such statements help to guide management decisions. The purpose is as follows:

> To preserve Harpers Ferry National Historical Park for the benefit and enjoyment of the people of the United States as a public national memorial commemorating historical events that occurred at or near Harpers Ferry.

Significance

Significance statements capture the essence of the national historical park's importance to the country's natural and cultural heritage. Significance statements are not an inventory of national historical park resources; rather, they describe the national historical park's distinctiveness and help to place the national historical park within its regional, national, and international contexts. Significance statements answer questions such as why are Harpers Ferry National Historical Park's resources distinctive? What contribution do they make to the nation's natural/cultural heritage?

Defining the national historical park's significance helps managers make decisions that preserve the resources and values necessary to accomplish the national historical park's purpose.

The significance of Harpers Ferry National Historical Park was defined by NPS staff and planning team as follows:

1. The geography of the Harpers Ferry area has made this a key travel, trade, and communications crossroads from the times of the earliest human habitation by American Indians to the present.

2. George Washington designated Harpers Ferry as the second Federal Armory in 1796 because of its geography and natural resources. It became a center for technological innovation, such as interchangeable parts and a model of the American System of Manufacturing. The Federal Armory provided arms and supplies for the Lewis and Clark expedition.

3. Harpers Ferry preserves the site of John Brown's raid of 1859, an epic event occurring in opposition to slavery, which helped precipitate the Civil War.

4. Harpers Ferry's location 61 miles northwest of Washington, D.C., made it a strategic target for both North and South during the American Civil War. The biggest battle in present-day West Virginia occurred here in September 1862, when Stonewall Jackson forced the largest surrender of U.S. troops during the Civil War. Union forces occupied the town during much of the war, establishing extensive fortifications and enforcing martial law on a civilian population. Due to the Baltimore and Ohio Railroad, Harpers Ferry served as the principal supply base for Union military operations in Shenandoah Valley during campaigns in 1862, 1863, and 1864.

5. Harpers Ferry hosted a broad range of African Americans, including slaves, freed blacks, and Civil War refugees. Storer College, which was established in 1867,

was one of the first institutions of higher learning for former slaves. It was the site of the second Niagara Movement Convention in 1906, where W. E. B. DuBois devised the first modern philosophy and strategy for civil rights. This led to the formation of the National Association for the Advancement of Colored People (NAACP).

6. The view of the confluence of the Shenandoah and Potomac, which inspired Thomas Jefferson to say it is "worth a voyage across the Atlantic," continues to inspire visitors today.

PRIMARY INTERPRETIVE THEMES

Based on the national historical park's purpose, significance, and resources, the following interpretive themes have been developed. Interpretive themes are the key stories, concepts, and ideas of a park. They are the groundwork that NPS staff will use to educate visitors about the national historical park and to inspire visitors to care for and about its resources. With these themes, visitors can form intellectual and emotional connections with national historical park resources and experiences. Subsequent interpretive planning may elaborate on these primary themes.

- The physical and historical geography of the Harpers Ferry area demonstrate how landscapes shape human history and how human endeavors profoundly affect natural landscapes — a powerful reminder that the actions of today determine the opportunities of tomorrow.
- The invention of interchangeable parts in arms manufacturing at the Harpers Ferry Armory provided unprecedented momentum to the Industrial Revolution, forever changing the human experience and intensifying the ongoing dialogue concerning the costs and benefits of technological innovation.
- The story of the cataclysmic impact of John Brown's raid, followed by the intense and pervasive effects of the Civil War on the community of Harpers Ferry and the nation, can provide myriad insights into the violent, transformative reality of war.
- The history of Harpers Ferry chronicles critical milestones and issues in the continuing struggle to achieve the evolving American ideals of freedom, education, and equality for African Americans.
- The history of Harpers Ferry weaves together common threads in the tapestry of 18th, 19th, and 20th century America, offering a deeper understanding into the great American experiment and providing important contexts for the challenges and opportunities facing us today.

SERVICEWIDE LAWS AND POLICIES

This section identifies what must be done at Harpers Ferry National Historical Park to comply with federal laws and policies of the National Park Service. Many park management directives are specified in laws and policies guiding the National Park Service and are therefore not subject to alternative approaches. A general management plan is not needed to decide, for instance, that it is appropriate to protect endangered species, control nonnative species, protect archeological sites, or provide access for the disabled. Laws and policies already direct such decisions. Although attaining some of the conditions set forth in these laws and policies may be dependent on available funding or staffing limitations, the National Park Service will continue to strive to implement these requirements with or without a new general management plan.

Some of these laws and executive orders are applicable solely or primarily to units of the national park system. These include the 1916 Organic Act that created the National Park Service, the General Authorities Act of 1970, the act of March 27, 1978 relating to the

management of the national park system, and the National Parks Omnibus Management Act (1998). Other laws and executive orders have much broader application, such as the Endangered Species Act, the National Historic Preservation Act of 1966 as amended, and Executive Order 11990 addressing the protection of wetlands.

The NPS Organic Act (16 USC Section 1) provides the fundamental management direction for all units of the national park system:

> [P]romote and regulate the use of the Federal areas known as national parks, monuments, and reservations...by such means and measure as conform to the fundamental purpose of said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

The National Park System General Authorities Act (16 USC section 1a-l et seq.) affirms that while all national park system units remain "distinct in character," they are "united through their interrelated purposes and resources into one national park system as cumulative expressions of a single national heritage." The act makes it clear that the NPS Organic Act and other protective mandates apply equally to all units of the system. Further, amendments state that NPS management of park units should not "derogat[e]...the purposes and values for which these various areas have been established."

The National Park Service also has established policies for all units under its stewardship. These are identified and explained in the NPS *Management Policies 2006*. The alternatives considered in this document incorporate and comply with the provisions of these mandates and policies.

The alternatives considered in this document incorporate and comply with the provisions of the mandates and policies as funding and staffing allow. Conditions prescribed by service-wide mandates and policies that are particularly important to this document are summarized below.

To truly understand the implications of an alternative, it is important to combine the service-wide mandates and policies with the management actions described in an alternative.

Table 1 shows some of the most pertinent servicewide mandates and policy topics related to planning and managing Harpers Ferry National Historical Park; across from each topic are the *desired conditions that the staff is striving* to *achieve* for that topic and thus the table is written in the present tense. The alternatives in this general management plan address the desired future conditions that are not mandated by law and policy and must be determined through a planning process.

It should be noted that although Harpers Ferry National Historical Park does not have overall responsibility for the two major trails that pass through the park, the National Park Service administers the Appalachian and Potomac Heritage national scenic trails and is subject to certain sections of the National Trails System Act of 1968 (as amended).

BOUNDARY ADJUSTMENTS

As part of the planning process, NPS management polices requires general management plans to look at boundary adjustments made to parks.

Throughout its history, Harpers Ferry National Historical Park has expanded its

boundaries to incorporate and protect areas of historic or natural importance. Congress passed the Harpers Ferry National Historical Park Revision Act of 2004 (PL 108-307) authorizing the addition of 1,240 acres of Civil War Battlefield and viewshed to the national historical park. With this expansion of park lands, the National Park Service will possess the majority of important historic resources in the Harpers Ferry area. However, there are sites in the tri-state area that are an integral part of the history of the town of Harpers Ferry. These sites are discussed in the "Relationship to Other Planning Efforts to This General Management Plan" section of the plan. None of these sites are proposed for acquisition in this plan.

TABLE 1. SERVICEWIDE MANDATES AND POLICIES PERTAINING TO HARPERS FERRY NATIONAL HISTORICAL PARK

Cultural Resources Management

ARCHEOLOGICAL RESOURCES Archeological resources are the physical evidences of past human activity representing both historic and prehistoric time periods. They can be found above or below ground and submerged under water. Current laws and policies require that the following conditions be achieved in the parks:	
Desired Condition	**Source**
Archeological sites are identified and inventoried and their eligibility determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance is unavoidable, the site is professionally excavated and documented in consultation with the appropriate state historic preservation office and/or American Indian tribes and the resulting artifacts, materials, and records are curated and conserved. Some archeological sites that can be adequately protected may be interpreted to the visitor.	National Historic Preservation Act of 1966, as amended Advisory Council on Historic Preservation's implementing regulations regarding the "Protection of Historic Properties" (36 CFR 800) American Indian Religious Freedom Act Archeological and Historic Preservation Act Archeological Resources Protection Act Native American Graves Protection and Repatriation Act NPS *Management Policies 2006* DO 28 and accompanying "Cultural Resource Management Guideline" (2001) DO 28A "Archeology" (2004)
Compliance Actions • Parkwide archeological sites will be inventoried, documented and National Register of Historic Places eligibility evaluations made in order to provide the state historic preservation office recommendations for making a consensus determination of eligibility. • Initiate a program of nomination to the National Register of Historic Places those individual properties believed to be eligible for inclusion in and/or have had a consensus determination of eligibility already made. • Treat all archeological resources as eligible for listing on the National Register of Historic Places pending a formal determination of their eligibility. • Monitor and assess the condition of known archeological sites, develop and implement stabilization strategies or data recovery for sites being threatened or destroyed. • Protect all archeological resources eligible for inclusion in or are listed in the national register. • Design facilities to avoid known or suspected archeological resources. If disturbance to such resources is unavoidable, conduct formal consultation with the applicable state historic preservation office, the Advisory Council on Historic Preservation, as appropriate, and Indian tribes in accordance with the National Historic Preservation Act and the current NPS Programmatic Agreement among the National Park Service, Advisory Council on Historic Preservation and National Conference of State Historic Preservation Officers. • Conduct data recovery excavations at archeological sites only where protection or site avoidance during design and construction is not feasible. • Educate visitors on regulations governing archeological resources encouraging them through the interpretive programs to respect, and leave undisturbed, archeological resources. • Limit archeological research to those sites that are in imminent or identifiable danger of destruction through natural causes or as the result of development actions. • Allow archeological research activities when identified as a national historical park research need and in conformance with an approved research design. • Complete an archeological overview and assessment, including archeological identification/evaluation studies. • Enter cultural resource data into a secure GIS database.	

HISTORIC STRUCTURES

A historic structure is "a constructed work consciously created to serve some human activity." Historic structures are usually immovable, although some have been relocated and others are mobile by design. They include buildings and monuments, dams, millraces and canals, bridges, tunnels and roads, fences, defensive works, ruins of all structural types, and outdoor sculpture.

Current laws and policies require that the following conditions be achieved for historic structures:

Desired Condition	Source
Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*.	National Historic Preservation Act of 1966, as amended Advisory Council on Historic Preservation's implementing regulations regarding the "Protection of Historic Properties" (36 CFR 800) Archeological and Historic Preservation Act Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes Programmatic memorandum of agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995) NPS *Management Policies 2006* DO 28 "and accompanying "Cultural Resource Management Guideline"

Compliance Actions

- Update/certify the list of classified structures as needed.
- Update the National Register of Historic Places nomination for Harpers Ferry National Historical Park as necessary.
- Develop and initiate a program of identification and evaluation and begin the process of reaching a consensus determination of eligibility with the state historic preservation officer for buildings and structures believed to be eligible for inclusion on the National Register of Historic Places.
- Treat all structures as eligible for listing on the National Register of Historic Places pending a formal determination of eligibility.
- Subject to the Secretary of the Interior's *Standards*, programmatically monitor and assess the condition of historic structures and develop and implement a program for the appropriate level of preservation for each historic structure determined or considered eligible for inclusion in the National Register of Historic Places.
- Before modifying any historic structure on the National Register of Historic Places, the National Park Service will consult with the West Virginia, Virginia, or Maryland state historic preservation office(s) as appropriate, and as required.
- Complete historic resource study for all areas of the national historical park.
- Import cultural resource data into a secure GIS database

CULTURAL LANDSCAPES

A cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Current laws and policies require that the following conditions be achieved in the parks for historic properties including historic cultural landscapes.

Desired Condition	Source
Conduct cultural landscape inventories to identify landscapes potentially eligible for listing in the National Register of Historic Places and to assist in future management decisions for landscapes and associated resources, both cultural and natural. The management of cultural landscapes focuses on preserving the landscape's physical attributes, biotic systems, and use, when that use contributes to its historical significance. The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guideline's for the Treatment of Cultural Landscapes*.	National Historic Preservation Act of 1966, as amended Advisory Council on Historic Preservation's implementing regulations regarding the "Protection of Historic Properties" (36 CFR 800) Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (1996) NPS *Management Policies 2006* DO 28 and accompanying "Cultural Resource Management Guideline"

Compliance Actions

- Complete a survey, inventory, and evaluation of cultural landscapes for areas of the national historical park not already surveyed.
- Submit the inventory and evaluation results to the appropriate state historic preservation office for review and comment
- Prepare nominations for those areas believed to be eligible for inclusion in the National Register of Historic Places for review by the state historic preservation officer or a formal determination by the keeper of the national register as to their eligibility.
- Treat potential cultural landscapes as eligible for inclusion in the national register pending agreement of eligibility with the appropriate state historic preservation office or a formal determination by the keeper of the national register.
- Determine, implement, and maintain the appropriate level of preservation for each landscape formally listed on the national register or determined to be eligible for listing subject to the *Secretary of the Interior's Standards*.

MUSEUM COLLECTIONS

Museum collections (objects, specimens, and archival and manuscript collections) provide information about processes, events, and interactions among people and the environment. All resource management records are managed as museum property.

Current laws and policies require that the following conditions be achieved in the parks for museum collections:

Desired Condition	Source
All museum collections (objects, specimens, and archival collections) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for access to and use of these items for exhibits, research, and interpretation.	Archeological and Historic Preservation Act Archeological Resources Protection Act Native American Graves Protection and Repatriation Act NPS *Management Policies 2006* DO 24 "Museum Collections Management" DO 28 and accompanying "Cultural Resource Management Guideline" 36 CFR Part 79

Actions

Current laws and policies require that the National Park Service take the following actions to meet its legal and policy requirements:

- Inventory and catalog all national historical park museum collections in accordance with standards outlined in the *NPS Museum Handbook*. Develop and implement a collection management program according to NPS standards to guide the protection, conservation, documentation, and use of museum collections.
- Planning for storage and exhibit area facilities sufficient to meet current curation standards consistent with DO 24 and 36 CFR 79 will be implemented by the national historical park staff.
- Use NPS standards and guidelines on the display and care of artifacts including artifacts used in exhibits.
- Do not display or store irreplaceable items at Harpers Ferry National Historical Park within the 500-year floodplain.
- Update the Scope of Collection Statement when warranted.

Natural Resources Management

SOILS	
Desired Condition	**Source**
The National Park Service actively seeks to understand and preserve the soil resources, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources. Natural soil resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy.	NPS *Management Policies 2006*
When soil excavation is an unavoidable part of an approved facility development project, the National Park Service will minimize soil excavation, erosion, and offsite soil migration during and after the development activity.	NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to soils: • Update soil GIS data • NPS staff would apply soil conservation measures to any surface-disturbing project	

WATER RESOURCES	
Desired Condition	**Source**
Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards.	Clean Water Act, Executive Order 11514 NPS *Management Policies 2006*
NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.	Clean Water Act Executive Order 12088 Rivers and Harbors Act NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this resource: • Investigate and monitor water flows and quality including trace elements. When poor readings occur, attempt to locate and mitigate source. • When appropriate, NPS staff would educate visitors about the water resources	

NATIVE VEGETATION AND ANIMALS	
Desired Condition	**Source**
The National Park Service will maintain, as part of the natural ecosystem, all native plants and animals in the parks. Populations of native plant and animal species function in as natural condition as possible except where special considerations are warranted. Native species populations that have been severely reduced in or extirpated from the parks are restored where feasible and sustainable.	NPS *Management Policies 2006*
The management of nonnative plant and animal species, up to and including eradication, will be conducted wherever such species threaten parks' resources or public health and when control is prudent and feasible.	NPS *Management Policies 2006* Executive Order 13112 "Invasive Species"
Maintain healthy native ecosystems that are free from nonnative pests and diseases that alter the composition of health of the native communities.	NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this resource: • Locate and inventory areas of native vegetative communities • Continue upgrading wildlife inventory study of all national historical park sections • Implement an exotic species management plan • Develop a resource stewardship strategy, including management of the gypsy moth, white-tailed deer surveys, monitoring of the impacts caused by white-tailed deer on vegetation, and other resource management strategies.	

THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES	
Desired Condition	**Source**
Federal and state-listed threatened and endangered species and their habitats are protected and sustained.	Endangered Species Act NPS *Management Policies 2006*
Native threatened and endangered species populations that have been severely reduced in or extirpated from the parks are restored where feasible and sustainable.	NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this resource: • Conduct periodic inventories for special status species • Prepare and implement a resources management plan that includes a monitoring and protection program for listed species	

NATURAL SOUNDS	
Desired Condition	**Source**
The National Park Service preserves the natural ambient soundscapes, restores degraded soundscapes to the natural ambient condition wherever possible, and protects natural soundscapes from degradation due to human-caused noise. Disruptions from recreational uses are managed to provide a high-quality visitor experience in an effort to preserve or restore the natural quiet and natural sounds.	NPS *Management Policies 2006* Director's Order 47 "Sound Preservation and Noise Management"
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this resource: • In undeveloped areas of the parks, identify and take actions to prevent or minimize unnatural sounds that adversely affect natural soundscapes or visitors' enjoyment of them. • Regulate the use of motorized equipment during visitor hours to minimize noise generated by NPS management activities	

Lightscape Management/Night Sky	
Desired Condition	**Source**
Excellent opportunities to see the night sky are available. Artificial light sources both within and outside the parks do not unacceptably adversely affect opportunities to see the night sky.	NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this resource: • Identify and take actions to prevent or minimize outdoor lighting in the national historical park and surrounding communities of Harpers Ferry, Bolivar, Neersville, and Sandy Hook that adversely affects natural lightscapes or visitors' enjoyment.	

VISITOR USE AND EXPERIENCE	
Desired Condition	**Source**
Natural and cultural resources are conserved "unimpaired" for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. No activities occur that would cause derogation of the values and purposes for which the parks have been established. For all zones, districts, or other logical management divisions within a park system unit, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas. Visitors will have opportunities to understand and appreciate the significance of the parks and their resources, and to develop a personal stewardship ethic.	NPS Organic Act NPS *Management Policies 2006*
To the extent feasible, programs, services, and facilities are accessible to and usable by all people, including those with disabilities.	Architectural Barriers Act Accessibility Standards Director's Order 42 "Accessibility for Visitors with Disabilities in NPS Programs, Facilities, and Services"
NPS staff will identify implementation commitments for visitor carrying capacities for all areas of the parks.	National Parks and Recreation Act (PL 95-625) NPS *Management Policies 2006*
Compliance Actions The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this value: • Give visitors the opportunity to understand, appreciate, and enjoy all areas of the parks. • Continue to monitor visitor comments on issues such as crowding, parking, access, and other experience-related topics.	

SUSTAINABLE DESIGN	
Desired Condition	**Source**
NPS visitor management facilities are harmonious with parks' resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy-efficient, and cost-effective. All decisions regarding NPS operations, facilities management, and development in the parks — from the initial concept through design and construction — reflect principles of resource conservation. Thus, all NPS developments and operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are located, built, and modified according to the *Guiding Principles of Sustainable Design* (NPS 1993) or other similar guidelines. Management decision-making and activities throughout the national park system should use value analysis, which is mandatory for all Department of the Interior bureaus, to help achieve this goal.	NPS *Management Policies 2006* Executive Order 13123 "Greening the Government through Efficient Energy Management" NPS *Guiding Principles of Sustainable Design* Director's Order 13 "Environmental Leadership"
Compliance Actions	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to this value: • NPS staff will work with experts to make national historical park facilities and programs sustainable.	

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS GENERAL MANAGEMENT PLAN

Numerous nationally significant historic sites are near the national historical park, which relate directly to the history of Harpers Ferry. Many of these areas are on the National Register of Historic Places, such as the Kennedy Farm and the Charles Town Court House. Others such as the Shepherdstown Battlefield are not. The National Park Service would work with local, state, and national interests lending expertise in support of continued preservation and interpretation of these areas integral to the telling of the story of John Brown's raid and General Robert E. Lee's Maryland Campaign. No boundary adjustments are proposed in this document.

The local transportation district is planning an expansion of the public transportation system. This would include an expanded public bus system, additional commuter rail stations, and new bicycle paths. This could affect how the public accesses the national historical park and the traffic patterns in and around Harpers Ferry.

The national historical park will partner or closely coordinate with ongoing and future planning efforts related to the West Virginia Welcome Center, Potomac Heritage National Scenic Trail, and Appalachian National Scenic Trail.

The National Park Service has worked closely with the Hagerstown/Eastern Panhandle Metropolitan Planning Organization on its "Long Range Multimodal Transportation Plan to 2030."

The National Park Service is currently evaluating the feasibility/need for a new curatorial and museum storage facility for the NPS National Capital Region. Should such a facility be located in the Harpers Ferry vicinity, it would obviate the need for the development of additional museum storage in the national historical park.

PLANNING ISSUES AND CONCERNS

The general public, NPS staff; representatives from other county, state, and federal agencies; and representatives from various organizations identified issues and concerns during scoping (early information gathering) for this general management plan. [An issue, for the purposes of this plan, is defined as an opportunity, conflict, or problem regarding the use or management of public lands]. Comments were solicited at public meetings and through planning newsletters (see the "Consultation and Coordination" chapter).

The general management plan alternatives provide strategies for addressing the issues within the context of the national historical park's purpose, significance, and special mandates.

Not all issues identified during scoping will be dealt with within the general management plan. These are things that are already governed by law or policy, may be beyond the scope of the plan, may be better dealt with in another type of document, may be corrected as a part of another action, or are not feasible.

The planning team analyzed all the comments received from national historical park neighbors, interest groups, community members, and the public during the scoping period to identify important issues that NPS management should address. Comments received indicated that the most important issue that should be addressed is the threat from outside development encroaching on the national historical park. Related to that was the need to expand the boundary to protect additional Civil War sites. Other priorities mentioned included cooperation with local communities, more or better access to national historical park sites, protection of resources, and more interpretation of Civil War sites.

TRESPASS

Trespass refers to the unauthorized entry onto NPS lands of people or animals often resulting in damage to national historical park property and resources. Although a serious concern, it is more a matter of staffing and law enforcement than an issue that can be dealt with in the general management plan.

BOUNDARY ADJUSTMENT

This issue came up frequently during the scoping process. Harpers Ferry National Historical Park is currently involved in a process of land acquisition resulting in the addition of several properties containing significant resources relating to the history of Harpers Ferry. Legislation in 2004 did not address lands in the viewshed of Jefferson Rock in Virginia and Maryland. This remains a serious concern of the public and may need to be addressed through legislation allowing NPS purchase in fee or scenic easement from willing sellers.

COOPERATION WITH LOCAL COMMUNITIES

Cooperation with neighbors and with the communities of Harpers Ferry and Bolivar is an important concern of Harpers Ferry National Historical Park. National historical park staff and the planning team have sought the comments of all affected neighbors and the local communities during scoping and will continue to consult with them during the course of this plan. Continued cooperation and coordination needs to be ongoing following the planning process, during implementation, and into the future.

BETTER ACCESS TO NPS SITES

Some areas of the national historical park are not open to the public. Other areas are difficult to get to, do not have designated parking, or lack appropriate directional/ interpretive signs. In an effort to provide better way-finding, two studies dealing with signs and access have been undertaken by the National Park Service. The plan will incorporate the information from these studies and look at other improvements that can be made to improve access around the national historical park.

PROTECTION OF NATIONAL HISTORICAL PARK RESOURCES

Protection of national historical park resources is an ongoing issue that is dealt with generally in the plan. It encompasses law enforcement, visitor education, and preservation/maintenance rather than a set of actions that can be fully described in the plan.

MORE INTERPRETATION OF CIVIL WAR SITES

During scoping, the public expressed frustration that there was little or no interpretation by rangers at many sites. Most of the sites have interpretive panels but much of the interpretation occurs without benefit of NPS staff. With increasing budgetary concerns systemwide, the likelihood of additional staff is small. The plan notes this concern and identifies some of the ways to provide more efficient interpretation. A later interpretive plan will be necessary to specifically identify ways to address the need for additional interpretation, perhaps through increased or updated signs, site-specific brochures, and self-guided audio tours. However, as noted elsewhere in this plan, there is no guarantee that funding will be provided to make this happen.

STAFF HOUSING

Staff housing for seasonal employees and volunteers is very difficult to find in the Harpers Ferry area. Seasonal employees and volunteers often cannot afford to pay the rental rates, even if the housing is available locally.

LACK OF STAFF

The national historical park's "Business Plan" (2003) has identified a need for additional personnel to maintain facilities, provide interpretation, protect resources and visitors, and to otherwise administer the needs of the national historical park. The plan notes this need. However, as noted elsewhere in this plan, there is no guarantee that funding for additional staff will be provided.

NONNATIVE SPECIES

Nonnative species of plants and animals have become established within Harpers Ferry National Historical Park. Some are so established that they likely cannot feasibly be removed, such as the dandelion. Others out-compete the native species and cause widespread disruption of the environment. The gypsy moth has been a major issue on Loudon and Maryland Heights as well as Short Hill. The plan notes this is a concern. However, such species are covered by NPS policy and won't be discussed in detail.

MAINTENANCE YARD LOCATION

The location of the maintenance yard requires that NPS and commercial delivery trucks drive on narrow side streets not ideal for such use. Additionally, noise from these vehicles can disturb neighbors. The plan does look at alternative locations for the maintenance facility.

STATIC VISITATION

This issue was mentioned by NPS staff as a concern. Many parks have experienced static or a decline in visitation as post 9/11 travel fears, gasoline prices, and visitor interests have diversified. This is also related to the staffing concern identified above. Implementation of any of the action alternatives could help to improve visitation.

IMPACT TOPICS — RESOURCES AND VALUES AT STAKE IN THE PLANNING PROCESS

The Council on Environmental Quality (CEQ) guidelines for implementing the National Environmental Policy Act require that the description of the affected environment must focus on describing the resources and people that might be affected by implementation of the alternatives. Impact topics were developed to focus the environmental analysis and to ensure that alternatives were evaluated against relevant topics. These impact topics were identified based on federal laws and other legal requirements, the CEQ guidelines, NPS management policies, NPS subject-matter expertise and knowledge of limited or easily impacted resources, and issues/ concerns expressed by other agencies or the public during initial project scoping. A brief rationale for the selection of each impact topic is given below, as well as for dismissing specific topics from further consideration.

IMPACT TOPICS TO BE CONSIDERED

Cultural Resources

The National Historic Preservation Act and the National Environmental Policy Act require that the effects of any federal undertaking on cultural resources be examined. Also, NPS *Management Policies,* and *Cultural Resource Management Guideline* (Director's Order 28), call for the consideration of cultural resources in planning proposals. Actions proposed in this plan could affect historic structures, archeological resources, and cultural landscapes.

Historic Structures. Although not all historic buildings or structures have been included in the current list of classified structures as a result of recent land acquisitions by the National Park Service, this plan proposes both uses and treatments to historic structures throughout the national historical park.

Archeological Resources. Archeological deposits are found throughout the national historical park. While specific legal management requirements are provided for in law and policy, the plan proposes specific actions in areas of high concentrations of such deposits.

Cultural Landscapes. The national historical park preserves considerable historic topography as they may have appeared in 1862, the time of Civil War occupation. These period landscapes are at Bolivar Heights, Murphy Farm, and Schoolhouse Ridge. Each of these landscapes is more heavily wooded today than in 1862.

Current cultural landscape studies cover Lower Town, Virginius Island, and Schoolhouse Ridge South. However, this topic is of importance to the overall protection and preservation of the national historical park's historical appearance and interpretive needs.

Thomas Jefferson described the view of the rivers' confluence as "worth a trip across the Atlantic." The National Park Service has acquired much of the surrounding heights in Virginia and Maryland in order to preserve this natural viewshed as seen from the national historical park and to protect historic sites. Scenery and natural beauty were listed as national historical park values by many of the public who commented during the scoping period.

Encroaching residential and commercial development outside the national historical park and the presence of utility lines and other intrusions in the park are affecting the historic landscapes.

Natural Resources

Water Resources (including wetlands). Rivers, lakes, and wetlands are highly important ecological components in the region. They provide nutrient transport, water purification, and habitat for a wide diversity of life. Water quality is a concern for wildlife, fisheries, recreation, and aesthetics. Subtopics include ground water and storm water management. Analysis of potential impacts to wetlands is required by Executive Order 11990, the Clean Water Act, and NPS *Management Policies 2006*. The *National Wetlands Inventory* (www.nwi.fws.gov) indicates that there are several areas classified as wetlands in the national historical park. One or more of the alternatives could affect water resources such as water quality and wetlands.

Floodplains. Analysis of potential impacts to floodplains is required by Executive Orders 11988, the Clean Water Act, and NPS *Management Policies*. Some of Lower Town is within 100-year and 500-year floodplains, which poses an ongoing risk to historic structures and national historical park developments.

Soils. The Organic Act and NPS *Management Policies 2006* require the protection and conservation of soil resources that could be affected by management actions. Soils at Harpers Ferry can be affected by construction, restoration, and visitor use. Alternatives presented in this plan could have adverse or beneficial impacts on soils.

Cave Resources. Consideration of caves and cave-related features or resources is required by NPS *Management Policies 2006* (4.8.2.2) and the Federal Cave Resource Protection Act of 1988 (43 CFR 37). Caves and numerous rock shelters have formed within or near the boundaries of Harpers Ferry. At least one limestone cave is known to contain cave-adapted life. It is possible that caves may contain important biological, paleontological or cultural resources that could be damaged without proper management.

Vegetative Communities. Harpers Ferry National Historical Park is home to a great variety of vegetation — from riverside riparian communities to upland forests. There are concerns over the effects of white-tailed deer overpopulation, acid precipitation, and the spread of nonnative plants in the national historical park. Alternatives presented in this plan could affect native and invasive nonnative vegetation.

Fish. Historically 43 species of fish have been encountered in the waters here, including the Potomac and Shenandoah rivers and their tributaries. Freshwater game fish include largemouth and smallmouth bass, channel catfish, and bluegill sunfish. Other fish indigenous to the river waters include dace, chub, shiner, darter, minnows, bullhead, and carp.

The Shenandoah and Potomac rivers flow through the national historical park but are outside the boundary. The National Park Service assists the states with enforcement of fishing regulations. There are several small streams, ponds, and wetlands in the national historical park that are inhabited by fish.

Wildlife. Harpers Ferry National Historical Park is home to a great variety of insects, birds, and other wildlife. Fish and wildlife concerns at the national historical park include preserving natural habitats in the outlying areas and maintaining healthy populations. The Organic Act and NPS *Management Policies* require the protection and conservation of wildlife resources that could be affected by actions that change human use or development patterns in the national historical park.

Alternatives presented in this plan could affect wildlife in the national historical park.

Special Status Species. Analysis of the potential impacts on special status species (federal or state endangered, threatened, candidate, or species of concern) and their habitat is required by the Endangered Species Act, NPS management policies, the National Environmental Policy Act, and other regulations. The U.S. Fish and Wildlife Service and state natural resources departments indicate that there are special status plant and animal species in or near the national historical park. The alternatives presented in this document have the potential to affect one or more of these species.

Soundscapes. NPS *Management Policies* (4.9) require park managers to strive to preserve the natural soundscape of a park, which is the lack of human-related sound and prevalence of natural sounds. At Harpers Ferry, these sounds may be associated with the physical and biological resources such as the sounds of flowing water, insects, or birds. Natural quiet in undeveloped areas of the national historical park is an important value as is maintaining the ambiance of the 19th century town; both identified by the public require protection. Implementing the action alternatives could alter the soundscape in one or more areas of the national historical park.

Lightscape Management. NPS policy requires the National Park Service to preserve, to the extent possible, the natural lightscapes of parks and seek to minimize the intrusion of artificial light (light pollution) into the night scene (NPS *Management Policies,* 4.10). The clarity of night skies is important to visitor experience as well as being ecologically important. Artificial light sources both within and outside the national historical park have the potential to diminish the clarity of night skies. New development is occurring near park boundaries so the potential for night-time lightscapes to be further degraded is increasing.

Visitor Use and Experience

The planning team identified visitor experience as an important issue that could be appreciably affected under the alternatives. The Organic Act and NPS *Management Policies 2006* direct the National Park Service to provide enjoyment opportunities for visitors that are uniquely suited and appropriate to the resources found in the national historical park. Several different aspects of visitation and enjoyment are evaluated and analyzed: visitor uses; recreational opportunities; access to orientation, information, and interpretation; visitor facilities; and access to features in the national historical park.

Socioeconomic Environment

The National Environmental Policy Act requires an examination of social and economic impacts caused by federal actions. Harpers Ferry National Historical Park affects the socioeconomics and opportunities of nearby communities. Residents and businesses (e.g., restaurants and hotels) in the region are concerned about changes in the management of the national historical park that might affect their livelihood and socioeconomic environment and opportunities.

NPS Operations

The alternatives proposed in this plan could affect NPS operations and facilities. Subtopics could include staffing, maintenance, commercial services, facilities, emergency response, energy use, ability to enforce NPS regulations and protect national historical park values, employee and visitor health and safety, distance to work, and administrative access.

IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

Ethnographic Resources

For purposes of this document, an ethnographic resource is associated with a specific contemporary human group or family using a particular place in a unit of the national park system over time in a way relevant to that group's traditional cultural heritage and social identity. More specifically, the National Park Service defines an ethnographic resource as any "site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it" (National Park Service 1998:181).

Because the National Park Service has not undertaken an ethnographic overview and assessment for the national historical park, a site-specific ethnographic study would be needed before implementation of the plan's selected alternative. This effort would ensure that cultural and natural character-defining features of a group's traditional use of an area would not be affected or that the effects would be minimal. Facts would need to be gathered about what groups might exist and the way(s) they might be tied to specific aspects of the national historical park. For example, alumni or family groups associated with Storer College, which operated from 1867 to 1955, would be researched as would any such groups that could be said to be traditionally associated with what is now the national historical park.

Although Storer College closed its doors in 1955, alumni have gathered there regularly since then for reunions to commemorate their time at the college, to acknowledge Storer's legacy through the Storer College Alumni Association, and to renew ties with their former classmates. Fewer alumni of course survive, but the national historical park remains open to them and to those of their families who wish to continue the custom. The level of connection of these Storer alumni and their families with the national historical park is high. The Park Service wants to sustain these ties and to continue to acknowledge Storer's African American legacy by allowing and cooperating with alumni access.

In all of the alternatives, such access to Storer College would continue and not change by implementing this general management plan. That expectation is consistent with dismissing ethnographic resources as an impact topic in this document. Before implementation of the alternative selected, the ethnographic study called for above would necessarily include Storer College as a specific national historical park site and would analyze access to the college for alumni and family groups.

Given European contact and European American westward expansion, many of the once specific connections of Native Americans with their traditional lands have been lost. This is the case with Harpers Ferry. In the vicinity of what is now Harpers Ferry National Historical Park in West Virginia, Maryland, and Virginia, there are no federally recognized American Indian tribes. There are no such American Indian tribes with whom to request Native American government-to-government consultations (Tiller 1996). There are no known ethnographic resources or traditional cultural properties (ethnographic resources that are considered eligible for inclusion or have been listed in the National Register of Historic Places) traditionally associated with contemporary Native American peoples in what is now the national historical park. The suggested ethnographic study previously discussed would be expected to confirm this condition. Consistent with dismissing ethnographic resources in this document, ethnographic research performed before the implementation of the selected alternative would occur along with the possible analysis of impacts.

Museum Collections

Consolidating the collections and archives in a new regional facility would greatly enhance the ability to curate and maintain the collections, perform research, design interpretive exhibits, and more easily retrieve objects and archives for other park purposes. Storage conditions would be more uniform. However, because the museum collections and archives are already maintained according to NPS standards and will continue to be in all alternatives, there would be minimal to no impact on items in the collection. This topic has therefore been dismissed from further analysis.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts on Indian trust resources from a proposed projects or actions by agencies of the Department of the Interior be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

There are no Indian trust resources in Harpers Ferry National Historical Park. The lands comprising the national historical park are not held in trust by the secretary of the interior for the benefit of Indians due solely to their status as Indians. Therefore, the topic of Indian trust resources was dismissed from further analysis.

Air Quality

The Clean Air Act and NPS Management Policies state that managers have a responsibility to protect national historical park air-quality-related values from adverse air pollution impacts.

Sources of pollution that affect air quality in Harpers Ferry are primarily outside the national historical park's boundaries. Stationary and mobile emissions in the region are the major source of air pollution. Sources of emissions in the region around Harpers Ferry include the following:

- motorized vehicles and trains
- residential woodstoves and fireplaces
- lumber and paper mills
- sand and gravel or limestone quarries
- other industries

Air pollution is somewhat mitigated locally by the filtering effect of trees and other vegetation in the undeveloped areas of the national historical park during leaf-on season. Conversely, natural resource specialists are concerned that atmospheric pollutants are adversely affecting the health of trees and plants.

Comprehensive air quality data have been collected by the NPS Air Resources Division (ARD). According to the division's data, Loudoun County, VA, had nonattainment of the National Ambient Air Quality Standard for ozone, which is 0.8 ppm for an 8-hour period (NPS 2003f). ARD also identifies Jefferson County, WV, and Washington County, Maryland, as Early Action counties. Early Action means that an agreement has been entered into with EPA for more time to allow the county to achieve compliance with air quality standards.

Air quality protection measures (mitigation) and operating procedures would be implemented by the National Park Service to protect air quality and prevent its degradation from NPS operations. Such measures described in the alternatives include mass transit with environmentally clean vehicles.

Construction actions occurring as a result of any of the action alternatives would require site-specific environmental analysis and include air quality protection measures such as dust abatement and vehicle restrictions. Construction activities would temporarily raise the levels of particulates, hydrocarbons, and nitrogen oxides in highly localized areas of effect from earth disturbance and combustion engine emissions. These short-term adverse impacts would be minor on air quality in the park and negligible on air quality in the region.

Implementing any of the alternatives would have a negligible effect on regional air quality and would not interfere with protection mandates. Therefore, the topic of air quality was dismissed from further analysis.

Geological Resources

The national historical park is in the Blue Ridge Mountain section of the extensive Appalachian Mountain Range that rose 360 million years ago when collisions between continental plates caused massive folding of the earth's crust. Once taller than the Rocky Mountains are today, these mountains have been worn down by eons of wind, rain, and ice until only the roots remain.

Weverton quartzite, phylite (Harpers shale), and limestone are the predominant rock types in the national historical park, each playing a role in the formation of the current landscape. Harpers shale, or phylite, is a metamorphic rock that contains mica crystals and often has a wavy appearance. It is about 2,000 feet thick and comprises the cliffs and hillsides seen in Lower Town. Limestone (calcium carbonate) is a sedimentary rock formed when the region was under a shallow inland sea and is an accumulation of lime from living organisms.

None of the alternatives described in this document would affect the geological resources of the region more than negligibly, nor are there any unusual geologic hazards. Therefore, the topic of geological resources was dismissed from further analysis.

Wilderness and Wild and Scenic Rivers and American Heritage Rivers

The Potomac River is listed on the "Nationwide Rivers Inventory" for the segments relative to Harpers Ferry National Historical Park in the counties of Frederick and Washington in Maryland, Loudon in Virginia, and Jefferson in West Virginia. The Potomac River is an American Heritage River, and the national historical park plays a role in its preservation.

Wilderness areas and wild and scenic rivers are congressionally designated areas. There are no such designations in the national historical park, and no river segments in the national historical park are eligible for designation; therefore this topic is dismissed from further analysis.

Prime or Unique Farmlands

In August 1980 the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the United States Department of Agriculture's Natural Resource Conservation Service as prime or unique. Prime or unique farmland is defined as soil which particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts.

Soils of the Frankstown series are categorized by the U.S. Department of Agriculture as unique farmlands and may exist in the national historical park (soil inventories are complete). However, implementing any of the action alternatives would not change park

operation activities, visitation patterns, or uses of the land more than negligibly. Historic agricultural use would continue on portions of Bolivar Heights, Schoolhouse Ridge, and the Murphy Farm. Maryland Heights, Loudon Heights, and Short Hill would remain primarily undisturbed. Because there would be no moderate or major impacts to the use of these soils, the topic of prime or unique farmlands was dismissed from further analysis.

Natural or Depletable Resources Requirements and Conservation Potential

Consideration of these topics is required by 40 CFR *1502.16*. The National Park Service has adopted the concept of sustainable design as a guiding principle of facility planning and development (NPS *Management Policies* 9.1.1.7). The objectives of sustainability are to design facilities to minimize adverse effects on natural and cultural values, to reflect their environmental setting and to maintain and encourage biodiversity; to operate and maintain facilities to promote their sustainability; and to illustrate and promote conservation principles and practices through sustainable design and ecologically sensitive use. Essentially, sustainability is the concept of living within the environment with the least impact on the environment.

Through sustainable design concepts and other resource management principles, all of the alternatives analyzed in this document would conserve natural resources and would not result in a substantial loss of natural or depletable resources. Therefore, this topic was dismissed from further analysis.

Energy Requirements and Conservation Potential

One or more of the action alternatives could result in new facilities with inherent energy needs. In all alternatives, new facilities would be designed with long-term sustainability in mind.

The National Park Service has adopted the concept of sustainable design as a guiding principle of facility planning and development *(NPS Management Policies* 9.1.1.7). The objectives of sustainability are to design facilities to minimize adverse effects on natural and cultural values, to reflect their environmental setting, and require the least amount of nonrenewable fuels/energy.

Action alternatives could result in an increased energy need, but this need is expected to be minor when energy needs in the park are considered and negligible when seen in a regional context. Thus, this topic was dismissed from further analysis.

Urban Quality and Design of the Built Environment

Consideration of this topic is required by 40 CFR 1502.16. The quality of urban areas is a consideration in this planning project because of the need to reflect the historic character of the town. According to park policy, vernacular architecture would be considered for any building rehabilitation or new structures built throughout the national historical park. Emphasis would be placed on designs, materials, and colors that reflect the historic period and do not detract from the built environment. Sustainable construction concepts would also be applied where feasible. Given that these considerations would be applied under any alternative, no further analysis of this topic is necessary. Therefore, the topic was dismissed from further analysis.

Environmental Justice

Presidential Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of

their programs and policies on minorities and low-income populations and communities. According to the Environmental Protection Agency, environmental justice is the

> …fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

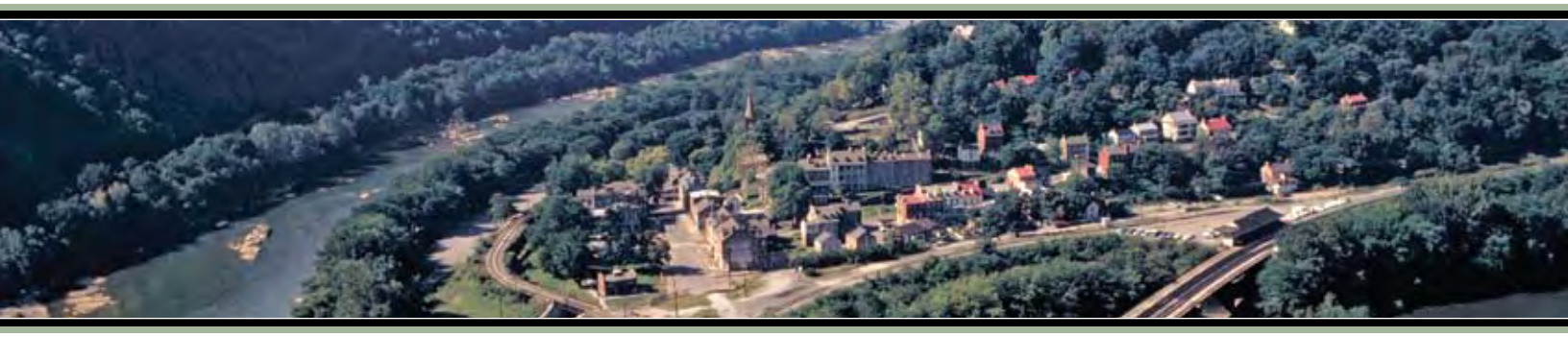
The goal of fair treatment is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.

The communities surrounding Harpers Ferry National Historical Park contain both minority and low-income populations; however, environmental justice is dismissed as an impact topic for the following reasons:

- The park staff and planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed alternative would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with implementation of the preferred alternative would not disproportionately affect any minority or low-income population or community.
- Implementation of the preferred alternative would not result in any identified effects that would be specific to any minority or low-income community.
- The impacts to the socioeconomic environment resulting from implementation of any of the action alternatives would be beneficial. In addition, the park staff and planning team do not anticipate the impacts on the socioeconomic environment to appreciably alter the physical and social structure of the nearby communities.

Therefore, this topic was dismissed from further analysis.

CHAPTER 2
ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE



INTRODUCTION

Many aspects of the desired future condition of Harpers Ferry National Historical Park are defined in the establishing legislation, the national historical park's purpose and significance statements, and the servicewide mandates and policies that were described earlier. The National Park Service solicited input from the public, NPS staff, government agencies, and other organizations regarding issues and desired conditions for the national historical park. Planning team members gathered information about existing visitor use and the condition of the national historical park's facilities and resources. They considered which areas of the national historical park attract visitors and which areas have sensitive resources.

Using the above information the planning team developed a set of seven management prescriptions and three alternatives to reflect the range of ideas proposed by the NPS staff and the public.

In addition to developing the management prescriptions and alternatives, the team determined a user carrying capacity for the national historical park, which sets parameters for maintaining desired resource conditions and visitor experience. Three preservation treatments for the historic properties proposed in this plan were also defined.

This chapter describes the user capacities, preservation treatments of historic properties, management prescriptions, and the alternatives for managing the national historical park for the next 15 to 20 years. Tables in this chapter summarize the management prescriptions, key differences between the alternatives, and key differences in the impacts that are expected from implementing each alternative. (The summary of impacts table is based on the analysis in Chapter 4, “Environmental Consequences”). This chapter also describes mitigation measures that would be used to lessen or avoid impacts, additional studies that would be needed, and the environmentally preferred alternative.

USER CAPACITIES

The General Authorities Act for the National Park Service, section 604, amended section 12(b), requires that general management plans establish a user carrying capacity for a unit of the national park system, saying, among other things, that there must be "identification of an implementation commitment for visitor carrying capacity for all areas of the [national park system] unit…" In addition, there also is a requirement in the NPS *Management Policies 2006* that general management plans address the issue of visitor carrying capacity. The use of the concept of carrying capacity in planning infrastructure and visitor management programs would be expected to result in effective and efficient management.

User capacity is defined as the type and level of visitor use that can be accommodated while sustaining the quality of national historical park resources and visitor opportunities consistent with the purposes of the national historical park. Research has shown that user capacity cannot be measured simply as a number of people because impacts to desired resource conditions and visitor experience are often related to a variety of factors, including the number of people, the types of activities people engage in, where they go, what type of resources are in the area, and the level of management presence. At the GMP level of decision making, management zones address user capacity because they include qualitative descriptions of desired resource conditions and visitor opportunities (see table 3 for a description of zones used in this plan). The strategy of addressing user capacity at Harpers Ferry National Historical Park is a tiered approach that would keep a general eye on

broad trends while focusing more specific monitoring and management on areas where action is most likely needed to achieve desired conditions.

Implementation-level park planning may address specific indicators, standards, and actions to implement the general strategy prescribed in this document. An identification of the types of indicators that may be monitored and a range of actions that may be taken when indicators are not showing progress towards meeting the desired condition follows.

Facility Management Zone

This zone is not for use by visitors, so user capacities are not applicable.

Historic Structure Zone

Levels of use within the high-use Historic Structure Zone would be primarily controlled by the physical capacity of facilities, such as structures, parking areas, and visitor centers (see table 2). For example, the Provost Marshal's living history exhibit can handle about one dozen people at one time. On the other hand, the John Brown Museum (which is the first floors of three different buildings, all connected) can handle 60 people at one time. Visitor numbers shown in table 2 cause no damaging consequences to the historic structures. In almost every case, floor boards are not original. In most every other instance, floors have been reinforced during building rehabilitations.

High-use levels may become more typical throughout the years as regional population growth continues. General use information will be collected, such as visitation trends, visitor complaints, parking problems, crowding in the visitor centers, vandalism, increase in law enforcement incidents, waste quantity, and requests for special uses. This information would be systematically analyzed to watch for trends. If trends indicate substantial change, the range of management actions that might be undertaken could include the following:

TABLE 2. LIST OF EXHIBITS AND USER CAPACITY

Exhibit or Structure	Visitor/Staff Capacity
John Brown Museum	60
Dry Goods Store living history exhibit	35
Machine Shop living history exhibit	20
Blacksmith Shop living history exhibit	20
Tavern living history exhibit	10
Confectionary living history exhibit	10
Provost Marshal's House living history exhibit	12
Master Armorer's House exhibits (Information Center)	40
Reading an Old Building exhibit	15
John Brown Fort	25
Cavalier Heights visitor contact station	15
Harpers Ferry place in history exhibit	20
Black Voices exhibit	15
Storer College exhibit	15
Civil War exhibit (Bldg. 3)	12
Civil War exhibit (Bldg. 15)	15
Lewis & Clark exhibit	12
Natural history exhibit	10
Burton Jewelry store furnished exhibit	4
James Taylor furnished exhibit	4
Officers' Quarters furnished exhibit	4
Harper House 1st floor furnished exhibit	4
Harper House 2nd floor furnished exhibit	4
Harper House basement furnished exhibit	4

- providing additional seasonal transit access to popular destinations to reduce traffic and crowding and to help disperse use at peak times
- encouraging visitors to walk between transit stops to disperse use and improve visitor experiences
- using various orientation and information approaches to encourage visitors to come during less crowded times (daily and seasonally) or to visit less popular areas in the national historical park

More specific indicators and standards would be established by NPS staff to monitor wear and tear in historic structures.

Visitor Portal Zone

All visitors are encouraged to enter the national historical park through the relatively small Visitor Portal Zone; therefore, it has the highest density of visitors. Levels of use would be primarily controlled by the physical capacity of facilities, such as the restrooms, parking lot, and visitor contact station.

The parking lot on Cavalier Heights has spaces for 900 vehicles and is rarely filled except for special events. General information would continue to be collected, such as visitation trends, visitor complaints, parking problems, crowding in the contact station, vandalism, increase in law enforcement incidents, accidents, waste quantity, and requests for special uses. If trends indicate substantial change, the range of management actions that might be undertaken could include additional transportation studies and possible modifications of facilities.

Adaptive Use Zone

At destinations and features within the moderate-use Adaptive Use Zone, levels of use are expected to rise because of changes proposed in the alternatives that would attract more visitors. General information would continue to be collected, such as visitation trends, visitor complaints, crowding in the exhibit rooms, and vandalism. This information would be systematically analyzed to watch for trends. If trends indicate substantial change, the range of management actions that might be undertaken could include increasing transportation studies and possible modifications of facilities or structure interiors. More specific indicators and standards would be established to monitor wear and tear in historic structures.

Cultural Landscape Zone

Areas in the Cultural Landscape Zone generally have the physical capacity to absorb visitor use and still maintain less crowded experiences for visitors while meeting desired conditions. Some trailheads would be provided and trails could connect this zone with other zones. Parking would not be allowed in undesignated areas.

Indicators in this zone may include the condition of natural soundscapes and visible impacts, such as the presence of visitor-created trails, trash, and noxious plants. Indicators would be monitored to ensure that desired resource prescription standards are met. Resource management plans will contain details for monitoring. Types of management actions that may be undertaken in this zone to address changes in resource conditions, and possibly affecting visitor distribution and behavior, include

- defining road and parking area edges so that parking is limited to designated locations
- improving trail delineation or hardening trails
- providing restrooms
- removing invasive plants

Archeological Preservation Zone

The Archeological Preservation Zone would be applied to mostly low-use areas where some self-sustaining natural processes are allowed to exist. Indicators monitored in this zone may include the number of visitors at one time at popular destinations, the condition of resources, visible impacts such as the presence of visitor-created trails, unplanned widening of trails, presence of invasive plants, and visitor experiences. A combination of indicators would be monitored in specific popular or resource sensitive areas to ensure that desired resource conditions are maintained.

The range of management actions that might be undertaken to address changes in resource conditions include

- defining trails
- removing trails and closing areas to use to allow rehabilitation of damaged areas
- removing invasive plants
- expanding educational programs (especially those emphasizing leave-no-trace practices).

Scenic/Natural Preservation Zone

Management of this low-use zone would emphasize preservation of resources while allowing visitor use and enjoyment. NPS staff would monitor resource conditions, visitor use, and trends in this zone. Specific resource and visitor experience monitoring would be conducted.

Indicators in this zone might include the condition of important resources (meadow condition, riparian communities, indicator species, soil erosion, vegetation cover, historic sites, water quality, natural soundscape), visible impacts (presence of social trails, trash, invasive or illegal plants), and visitor experience values (such as encounter rates, human or stock excrement and aesthetics). A combination of indicators would be monitored in specific popular or resource sensitive areas to ensure that desired resource conditions are maintained and desired visitor experiences achieved.

The range of management actions that might be undertaken to address changes in resource conditions or visitor experiences include

- redesigning trails
- restoration of areas of soil and vegetation damage
- removing invasive plants
- expanding educational programs (especially those emphasizing leave-no-trace practices)
- instituting a permit system to reduce or shift use

PRESERVATION TREATMENTS IN RELATION TO THE ALTERNATIVES

Many of the buildings and structures, archeological resources, and landscapes identified require specific preservation treatments. The terms used to describe these actions have specific definitions and are described in *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*. That document defines the principles that federal agencies must follow when they stabilize or alter historic buildings, landscapes or sites. The secretary's *Treatment Standards with Guidelines for Historic Properties and Guidelines for Cultural Landscapes* are also useful for determining preservation treatments. Of the four levels of treatment, preservation, rehabilitation, and restoration are proposed in this GMP/EIS.

Preservation is the process of applying measures necessary to sustain existing form, integrity and materials of a historic property. Work includes stabilizing the property and focuses on ongoing maintenance and repair of historic materials and features. Preservation maintains the character of the resource. Most

of the activity that takes place on the battlefields today is preservation; buildings, monuments, and landscapes are stabilized and repaired to maintain their existing character. Preservation is the only treatment appropriate for archeological resources.

Rehabilitation makes possible compatible uses for properties through repair, alteration and addition while preserving significant historic features that convey historical values. Rehabilitation identifies, protects, retains, and preserves historic features. Changes that have acquired significance in their own right are generally retained and preserved. Historic features that have been changed or have deteriorated may be repaired. Rehabilitation could also allow for the replacement of missing historic features like fences. Finally, rehabilitation permits alterations and additions for new use as long as the historic appearance and character are retained.

Restoration is the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code required work to make properties functional is appropriate within a restoration project.

MANAGEMENT PRESCRIPTIONS

The building blocks for reaching an approved plan for managing a national park system unit are the management prescriptions and the alternatives. All are developed within the scope of the national historical park's purpose, significance, mandates, and legislation.

Management prescriptions are descriptions of desired future conditions for national historical park resources and visitor experiences in different areas of the park. The management prescriptions identify the widest range of potential appropriate resource conditions, visitor experiences, and facilities that fall within the scope of the national historical park's purpose, significance, and special mandates. Seven sets of management prescriptions have been identified for the national historical park.

The management prescriptions are presented in table 3. Visitor experiences, resource conditions, and appropriate activities and facilities are described for each. These prescriptions were presented in *Newsletter* #2. They were developed as a result of this planning effort and therefore are not applied to the no-action alternative. In formulating the alternatives, the management prescriptions were placed in different locations or configurations on a map of the national historical park according to the overall intent (concept) of each alternative.

TABLE 3. MANAGEMENT PRESCRIPTIONS

	Desired Resource Conditions	*Desired Visitor Conditions/ Experiences*	*Appropriate Facilities*
SCENIC/NATURAL PRESERVATION ZONE	Existing natural conditions maintained and disturbed areas restored. Scenic viewsheds maintained. Eliminate existing modern roads where appropriate. Cultural resources receive appropriate preservation treatment. Nonnative species removed. Views to and from Harpers Ferry maintained.	Guided and self-guided opportunities (e.g., hiking, fishing, nature viewing). Natural soundscape with relatively low ambient noise. Encounters with other visitors low to moderate, and low with NPS staff. Hiking is moderate to difficult.	Primitive trails and historic road traces remain (convert traces to trails or allow administrative use only). New trails allowed where there is a demonstrated need and where scenic values are not affected. Limited parking at trailheads. Minimal interpretive media (unobtrusive waysides, exhibits). Restrooms. No utility towers unless adequately mitigated (utilities rerouted underground or out of national historical park where feasible).
CULTURAL LANDSCAPE ZONE	Wooded and open character such as woodlots, farms, battlefields. Reminiscent of the Civil War era or 19th century as a whole. Natural resources may be modified to emphasize historic landscapes and views or to prevent damage to cultural resources. Viewsheds offer appropriate historical context.	Self-guided exploration aided by interpretive signs. Ranger-led tours and options. Natural appearing setting with opportunity for visitors to explore the open space of the battlefields. Quiet/contemplative atmosphere. Natural soundscape prevails the majority of the time. Encounters with other visitors low to moderate. Occasional special events must not detract from the landscape.	Trails appropriate to the setting (hardened to prevent resource impacts, if necessary, but with an unobtrusive appearance). Wayside exhibits. Farm roads. Parking at trailheads. Self-contained/low impact toilets. Leasing of historic structures and lands. Adaptively used historic structures.

	Desired Resource Conditions	***Desired Visitor Conditions/ Experiences***	***Appropriate Facilities***
HISTORIC STRUCTURE ZONE	Appearance of a 19th century community. Modern intrusions removed to the extent possible. Re-create the activity of an "alive" town. Natural resources may be modified to reflect the 19th century. Yards and landscaping appropriate to the period of the structures and/or the neighboring town. Vehicle access minimized. Adaptive use of interiors appropriate.	Visitor able to immerse self in 19th century town. High level of activity and life. High level of encounters with other visitors and NPS staff. Guided and self-guided activities. Interpretation/orientation/ exhibits occur inside buildings as well as outside. Occasional special events and living history demonstrations. Human-related sounds prevail.	New structures developed only where there is a demonstrated need (built with sympathetic architecture). Utilities hidden or placed underground. Leasing and adaptive reuse of historic structures is appropriate. Contemporary and period exhibits. Alternative transportation sites. Regulated parking.
ARCHEOLOGICAL PRESERVATION ZONE	Archeological resources stabilized and preserved. Landscape managed to limit disturbance of archeological features.	Place of reflection/quiet/ contemplation. Guided and self-guided tours. High level of interpretation to promote understanding. Low to medium encounters among visitor groups. Human-related sounds may detract from natural soundscape in some portions of zone.	Waysides. Low-impact, natural-appearing trails. No new roads. Trailhead (with restrooms, parking, fee box, brochures).
VISITOR PORTAL ZONE	Natural resources modified for visitor use and services. Potential reuse of historic structures/properties.	Visitor feels welcomed/invited to partake in the national historical park. Managed entry experience that says visitor has entered the national historical park. High level of NPS presence. High level of encounters with other visitors and NPS staff. Readily accessible personal and nonpersonal services (orientation/information). Occasional moderate to high level of noise. Easy access to site and transportation. Human-related sound prevails.	Fee collection. Compatible new construction allowed. Facilities (e.g., parking). Restrooms, picnic tables / shelters, information / regulatory signs / bulletin boards, roads, sidewalks, amphitheater, visitor contact / visitor center). Transportation hub facilities.

	Desired Resource Conditions	*Desired Visitor Conditions/ Experiences*	*Appropriate Facilities*
ADAPTIVE USE ZONE	Historic structures would be preserved and interpreted. Reuse of existing historic structures and empty buildings preferred. Located away from sensitive sites. Low impact on community Natural resources may be modified. New construction is appropriately scaled to surroundings.	Visitors would be able to stroll through an area of preserved historic and modern structures, pleasant landscaped lawns. Structures not used for administration purposes could be open for interpretive purposes or placed in the historic leasing program. Quiet, low paced visitor experience. Occasional guided tours but mostly self-guided exploration of building exteriors. Soundscape is typical of an urban setting.	New structures allowed must be compatible with the existing setting. Parking, pathways, and access roads compatible with the existing setting. Appropriate landscaping for location. Interpretive signs provide most interpretation. Staff housing in historic structures. NPS offices and leased space is appropriate.
FACILITY MANAGEMENT ZONE	Landscape highly modified to support zone activities — vegetation used for screening. Few natural resources remaining. Occasional high noise levels. No cultural or sensitive natural resources. Allows some facility expansion. Sensitive to surroundings, especially to residential areas.	Not for visitor use.	Appropriate facilities to the operation of the national historical park (e.g., access roads, fences, shops, lighting, materials storage, "boneyard," parking, offices, emergency services cache, vehicle storage, recycling facility, fuel storage). Must have easy delivery access. Must have adequate utility access.

FORMULATION OF THE ALTERNATIVES

The alternatives in this general management plan are different scenarios that could be fashioned with the management prescriptions available. Each of the alternatives has an overall management concept and a description of how different areas, or zones, of the national historical park would be managed (management prescriptions and related actions). The concept for each alternative gives planners an idea of what the alternative is going to look like. Management zones might be larger or smaller and in different locations in different alternatives, depending on the overall concept for each alternative. This *Draft General Management Plan/ Environmental Impact Statement* presents three alternatives, including the National Park Service's preferred alternative, for future management of Harpers Ferry National Historical Park. Alternative 1, the "no-action" alternative that presents a continuation of existing management direction, is included as a baseline for comparing the consequences of implementing each alternative. The "action" alternatives are alternative 2 (the preferred alternative) and alternative 3. These action alternatives present different ways to manage resources and visitor use and improve facilities and the infrastructure at the national historical park. These alternatives embody the range of what the public and the National Park Service want to see accomplished with regard to cultural resource conditions, natural resource conditions, and visitor use and experience at Harpers Ferry National Historical Park. The actual configurations for each action alternative were developed by overlaying the management prescriptions (described later) on a map of the national historical park.

As noted previously in the "Guidance for the Planning Effort" section, the National Park Service would continue to follow existing agreements and servicewide mandates, laws, and policies regardless of the alternatives considered in this plan. These mandates and policies are not repeated in this chapter.

The alternatives focus on *what* resource conditions and visitor uses and opportunities should be at the national historical park rather than on details of *how* these conditions and uses/experiences should be achieved. Thus, the alternatives do not include many details on resource or visitor use management. The no-action alternative is included to form a baseline for comparison in the *General Management Plan / Environmental Impact Statement*.

More detailed plans or studies will be required before most conditions proposed in the alternatives are achieved. The implementation of any alternative also depends on future funding and environmental compliance. This plan does not guarantee that money will be forthcoming. The plan establishes a vision of the future that will guide day-to-day and year-to-year management of the national historical park, but full implementation could take many years.

All alternatives to be considered in this general management plan must be consistent with and contribute to sideboards within which all management actions must fall. These sideboards are the purpose and significance statements along with the mission goal. All alternatives must also be within NPS legal mandates and park policies.

The alternatives in this general management plan would provide for resource protection and visitor use. Resource conditions, visitor experience, and appropriate activities and facilities are discussed in each alternative. The actions common to all alternatives, by area, are described in table 4.

TABLE 4. ACTIONS COMMON TO ALL ALTERNATIVES

TOPIC		ACTIONS
LOWER TOWN	Cultural Resources	Assess all buildings for NRHP eligibility and nominate if eligible Conduct section 106 review for all activities potentially affecting historic properties
	Natural Resources	Allow use of nonnative vegetation only where necessary and appropriate to create a historic setting
	Visitor Experience	Encourage use of visitor surveys to assess visitor satisfaction Improve Appalachian National Scenic Trail marking within the national historical park Provide pedestrian access to all national historical park areas Retain transit facility (turnaround, shelter) Maintain NPS control and oversight of all interpretive activities Provide interpretive panels throughout national historical park("Books on Wall") The Potomac Heritage National Scenic Trail along the river could become a link between Short Hill, Potoma Wayside, and Harpers Ferry.
	NPS Operations	Continue to make public facilities compliant with ADA Accessibility guidelines Maintain control and oversight of how buildings are used and changed Continue to upgrade facilities and structures to meet ADA needs
FEDERAL ARMORY	Cultural Resources	Restore train station to 1931appearance and adaptively used as train/commuter station with town visitor information and collection point for entrance fees
	Natural Resources	Remove hazardous and nonnative trees
	Visitor Experience	Provide quiet contemplative experience Provide primarily self-guided tours with occasional ranger-led activities Include activities such as hiking, observing nature, contemplation, etc.
VIRGINIUS & HALL'S ISLAND	Cultural Resources	Manage national historical park for preservation of archeological resources
	Natural Resources	Protect wetlands and state species of concern Remove hazard and nonnative trees
	Visitor Experience	Include activities such as hiking, observing nature, etc. Provide quiet contemplative experience Provide primarily self-guided tours Provide nearby bus access

Table 4. Actions Common to All Alternatives

TOPIC		ACTIONS
LOUDOUN HEIGHTS	**Cultural Resources**	Stabilize and preserve earthworks
	Natural Resources	Identify and eradicate invasive species: implement IPM (integrated pest management). Manipulate vegetation to maintain trails and remove hazard trees a on Appalachian Trail segments Actively manage to maintain natural resources
	Visitor Experience	Recreational activities (hiking, fishing, observing nature, etc.) Maintain existing trails Opportunities for solitude No toilets/drinking water Provide only private vehicle access
	NPS Operations	Continue cooperation with Appalachian Trail entities Maintain existing trails
MARYLAND HEIGHTS	**Cultural Resources**	Stabilize and preserve cultural features
	Natural Resources	Identify and eradicate invasive species; implement IPM
	Visitor Experience	Provide pedestrian access only; maintain trails and historic roads Maintain directional and interpretive signs Primitive recreational activities (hiking, observing natural scenery, wildlife, etc.) Opportunities for solitude No private vehicle access allowed No toilets/drinking water
SHORT HILL	**Cultural Resources**	Stabilize and preserve cultural features
	Natural Resources	Identify and eradicate invasive species, implement IPM
	Visitor Experience	No vehicles allowed, pedestrian-only access Maintain directional and interpretive signs No on-site interpretation Opportunities for solitude Primitive recreational activities (cross-country hiking, observing nature etc.) No toilets/drinking water The Potomac Heritage National Scenic Trail along the river could become a link between Short Hill, Potoma Wayside, and Harpers Ferry.
	NPS Operations	Visitation discouraged Manage as natural area

TOPIC		ACTIONS
BOLIVAR HEIGHTS	**Cultural Resources**	Maintain as a battlefield landscape
	Natural Resources	Maintain battlefield landscape through agricultural lease and vista clearing
	Visitor Experience	Maintain parking and trails Provide wayside interpretive signs
CAMP HILL	**Cultural Resources**	Assess all buildings for National Register of Historic Places eligibility and nominate if eligible Conduct section 106 review for all activities potentially affecting historic properties
	Natural Resources	Allow use of nonnative vegetation only where necessary and appropriate to create a historic setting
	Visitor Experience	Encourage use of visitor surveys to assess visitor satisfaction Improve Appalachian Trail marking through town Provide pedestrian access to all national historical park areas Possible connections to regional bike path Maintain NPS control and oversight of all interpretive activities, regardless of who is conducting them Move Appalachian Trail and Potomac Heritage National Scenic Trail offices to Camp Hill
	NPS Operations	Continue to make public facilities compliant with ADA Accessibility guidelines Maintain NPS control and oversight of how buildings are used and changed Maintain campus environment
CAVALIER HEIGHTS	**Visitor Experience**	Pave stabilized turf overflow parking
POTOMAC FRONTAGE	**Natural Resources**	Remove hazard and nonnative trees
	Visitor Experience	Fishing, observing nature, hiking Access by personal vehicle or hiking Occasional ranger-led tours
NASH FARM POTOMAC TERRACE	**Natural Resources**	Maintain natural area conditions
SCHOOLHOUSE RIDGE	**Cultural Resources**	Maintain as a battlefield landscape
	Natural Resources	Maintain battlefield landscape through agricultural lease and vista clearing
	Visitor Experience	Maintain parking, trails, and restrooms, and provide wayside interpretive exhibit
	NPS Operations	Encourage visitation; leave some areas natural

Table 4. Actions Common to All Alternatives

TOPIC		ACTIONS
BULL FALLS/ SHENANDOAH CITY	**Cultural Resources**	Identify and evaluate cultural resources
	Natural Resources	Preserve viewshed from river and maintain natural conditions
	Visitor Experience	No on-site interpretation
MURPHY FARM	**Cultural Resources**	Protect Civil War earthworks
	Natural Resources	Manage nonagricultural lands for natural processes
	Visitor Experience	Access by hiking trail Interpret Civil War earthworks Offer occasional interpretive tours
POTOMA WAYSIDE	**Natural Resources**	Modify to allow recreational experience Manage nonrecreational areas for natural resource preservation
	Visitor Experience	The Potomac Heritage National Scenic Trail along the river could become a link between Short Hill, Potoma Wayside, and Harpers Ferry

IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The development of a preferred alternative involves evaluating the alternatives with the use of an objective analysis process called "Choosing by Advantages" or CBA. Through this process, the planning team identifies and compares the relative advantages of each alternative according to a set of factors. The benefits or advantages of each alternative are compared for each of the following CBA factors:

- provision of opportunities for quality visitor experiences
- availability of visitor programs and services(information, orientation, exhibits and programs
  - ease of access to all park areas for all visitors
  - availability of resources to public
- protection of cultural and natural resources
  - protection of historic structures
  - protection of historic landscapes/viewsheds
  - protection of museum collections
  - preservation of natural resources
- improvement of NPS operations (maintenance operations, administrative efficiency, security/law enforcement)

The relationships between the advantages and costs of each alternative are established. This information is used to combine the best attributes of the preliminary alternatives into the preferred alternative. This alternative gives the National Park Service the greatest overall benefits for each point listed above for the most reasonable cost.

DEVELOPMENT OF COST ESTIMATES

To make wise planning and management decisions for the national historical park, NPS decision-makers and the public must consider an overall picture of the advantages, disadvantages, and general costs of the alternatives, including the no-action alternative (alternative 1). By including the no-action alternative, a comparison can be made between the action alternatives and current national historical park management practices.

It is important that the cost estimates contain the same elements and that they be developed with the same general assumptions so that there can be consistency and comparability among alternatives. The following caveats apply to the costs presented throughout this general management plan.

- The costs are presented as estimates and allow for flexibility in application of components.
- These costs are not appropriate for budgeting purposes.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee that funding or staffing for proposed actions will be available.
- Full implementation of the general management plan may be many years in the future.

COST ESTIMATE COMPONENTS

Annual Operating Costs

- Annual national historical park operating costs include staff salary and benefits, equipment, maintenance, utilities, monitoring, contract services, and space rental.

One-Time Costs

One-time costs for the alternatives include

- major rehabilitation or replacement of existing facilities and infrastructure
- new development (including NPS transportation infrastructure costs)
- interpretive media (audiovisual programs, exhibits, wayside exhibits, publications)
- resource management and visitor services (inventories of resources and visitors, implementation planning, compliance)
- other significant one-time costs, such as removing buildings, buying transportation equipment, restoring resources, or acting on specific implementation plans
- reports, studies, archeological excavations, and other research with substantial costs

NPS Facilities Model

The National Park Service has developed facility models for several types of facilities, such as visitor centers and maintenance facilities, based on a number of factors unique to each park system unit. This model was used in the development of cost estimates for Harpers Ferry National Historical Park.

LAND ACQUISITION

This plan does not propose acquisition of any lands outside the already authorized boundary. Thus no land acquisition costs are provided in this plan

ALTERNATIVE 1: NO ACTION

GENERAL

Under the no-action alternative, Harpers Ferry National Historical Park would continue the current management strategies and practices now in place. Management would continue to follow the intent and spirit of the 1980 *Development Concept Plan,* the last parkwide plan. Visitors would not notice any changes in appearance or operations because management would continue to offer the same visitor experiences and preserve the national historical park's existing cultural, natural, and scenic values. No action does not imply or direct the discontinuation of any existing programs or services.

No boundary adjustments are proposed in this alternative.

Because Harpers Ferry National Historical Park does not have a general management plan, zoning (as described under the action alternatives) is not discussed.

SITE-SPECIFIC ACTIONS

Lower Town

Restored historic structure exteriors would continue to present a 19th century town. The interiors would continue to be used for static interpretive displays and NPS administration. The main bookstore operated by Harpers Ferry Historical Association would remain in Lower Town. The national historical park's second information center would remain in the Master Armorer's house. Occasional special events would be held on the Green. Visitors would use the national historical park transportation system to access Lower Town from the visitor contact station on Cavalier Heights. Private vehicles would drive through Lower Town, but parking space would continue to be limited.

All cultural and natural resource management actions including building preservation and maintenance would continue according to existing laws and policies.

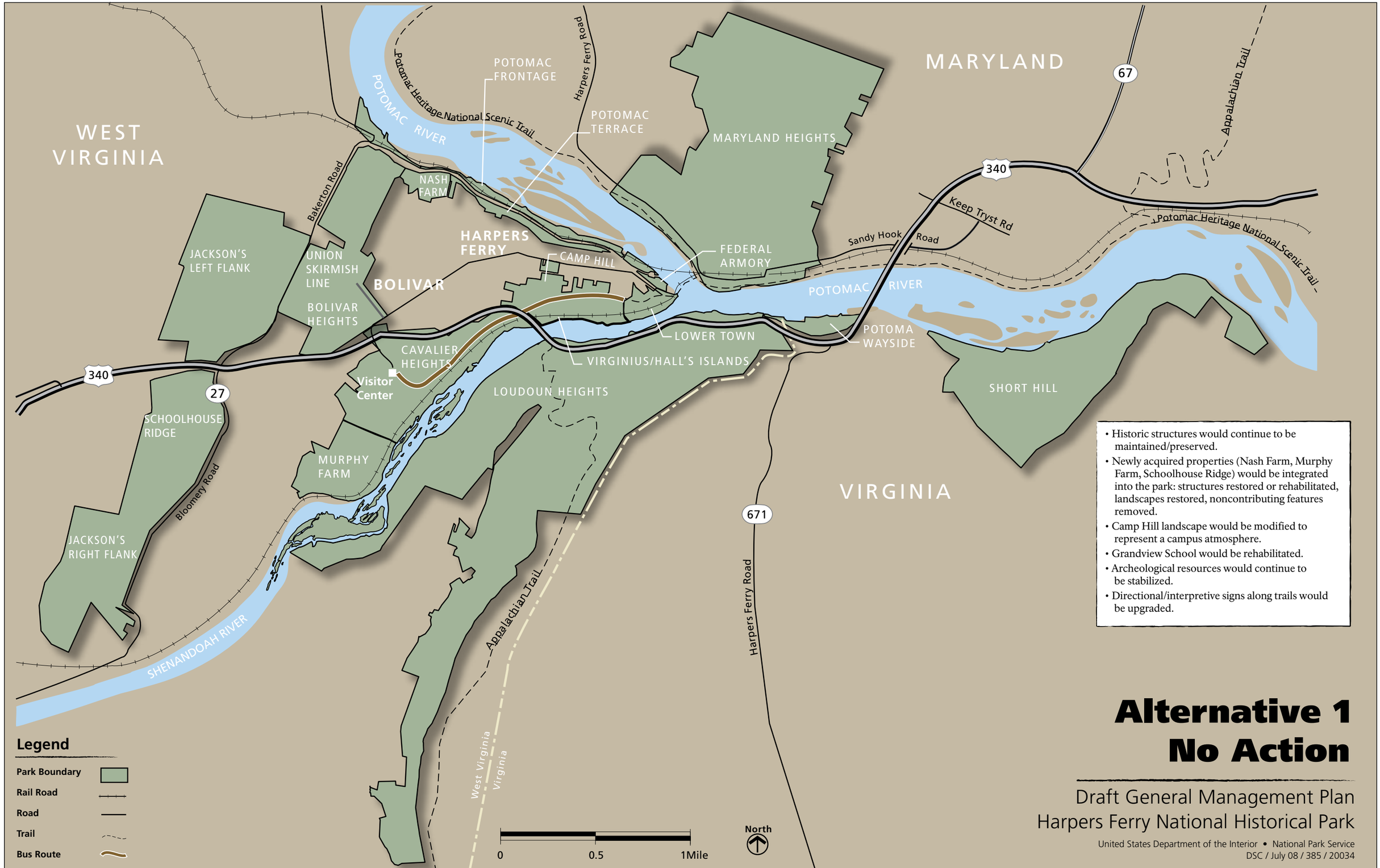
Public access to backyards behind historic buildings would continue in this alternative.

The NPS administrative space would remain on upper floors. Access to the space by the general visiting public would be limited.

Museum exhibits and interpretive panels would remain in their current locations and would be periodically updated but not expanded into new areas of historic buildings. Static displays such as the General Store would remain. The bookstore and information center would remain in their current locations on Shenandoah Street.

Some museum objects would continue to be used in exhibits and displays for interpretive purposes in areas such as the Master Armorer's house and the Frederick A. Roeder confectionary as identified in the *Collections Management Plan*. Specific structures such as the John Brown Museum, the Gerard Bond Wager Building, the John C. Unseld Building, and the William Anderson building would continue to house exhibits and offices. Curatorial and storage functions would remain in multiple buildings around Lower Town and throughout the national historical park until a new regional collection curatorial facility has been constructed. At that time curatorial and storage functions would be removed to the new facility.

The national historical park would continue its commitment to upgrade facilities and structures to accommodate visitors with disabilities in conformance with the Americans with Disabilities Act.



- Historic structures would continue to be maintained/preserved.
- Newly acquired properties (Nash Farm, Murphy Farm, Schoolhouse Ridge) would be integrated into the park: structures restored or rehabilitated, landscapes restored, noncontributing features removed.
- Camp Hill landscape would be modified to represent a campus atmosphere.
- Grandview School would be rehabilitated.
- Archeological resources would continue to be stabilized.
- Directional/interpretive signs along trails would be upgraded.

Alternative 1
No Action

Draft General Management Plan
Harpers Ferry National Historical Park

United States Department of the Interior • National Park Service
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Current management strategy to provide a semblance of the historic landscape would continue. Uniformed rangers would be present to answer visitor questions and provide information. NPS-led activities would occur infrequently.

The Lower Town bus pavilion would remain in its current location. Visitors would continue to use the facility as the main drop-off for visiting Lower Town. NPS staff would continue to work with the city to regulate vehicular traffic as needed. Private, NPS, and commercial vehicles would continue to intrude on the historic setting. Pedestrians would continue to walk in the streets as if under the impression that streets are closed to traffic.

Access from the John Brown Monument to the armory grounds would remain unchanged, using a wooden staircase from the monument on top of the 1890s railroad embankment to the armory grounds below. The primitive trail around the armory grounds between the river and the embankment would remain. Some trees and brush would continue to be removed to open views of the grounds.

Archeological research would be limited to that necessary to assess the condition of the subsurface remains and to identify foundation walls and corners. Limited excavation would occur for interpretive or demonstration purposes.

The historic train station would remain a MARC commuter station, Amtrak stop, and an NPS entrance fee collection point. The station parking lot would continue to serve mostly Amtrak/MARC commuters during the week.

Potomac Frontage

The Potomac Frontage area would continue to be managed for its cultural resource values. Conditions of the Armory canal, dam, power station, and associated structures would continue to be monitored and actions to prevent the loss or failure of historic fabric would be addressed.

The Armory canal would be maintained as an archeological preserve and natural area. Natural processes would continue in and along the Armory canal as long as the cultural resources were not impaired by such processes.

Virginius and Hall's Islands

These islands would be managed for archeological preservation and natural values.

In addition to identification and evaluation efforts, monitoring directed toward preserving in-situ deposits, some selective stabilization of foundations, mill races, and canal locks would continue. Vegetation management would continue to protect archeological features and sites.

Existing trails would continue to be used by visitors for accessing the cultural and natural resources of the islands. Existing interpretive signs would also remain and could be supplemented by additional signs as archeological research dictated.

Camp Hill

The National Park Service (Harpers Ferry NHP, Harpers Ferry Center, and Mather Training Center) would continue to preserve and use the historic structures on Camp Hill that reflect the history of Storer College, the military presence of the first half of the 19th century, and more recent town history. A proposed dormitory for the Mather Training Center would be constructed if funding became available.

The Storer College campus on Camp Hill would continue to be managed to reflect the atmosphere of the historic college. Adaptive reuse of historic buildings would continue.

Building exteriors would be preserved or restored to the earliest period of documentable appearance within their period of significance.

The Shipley School would be rehabilitated in keeping with NPS preservation policy while a study of possible uses was undertaken. Should it be determined that this building, already condemned by federal authorities, was too costly to maintain, the National Park Service would follow the procedures necessary to remove it, in consultation with the West Virginia state historic preservation officer.

Most visitor information on the history of Camp Hill and Storer College would continue to be in Lower Town. A limited number of additional interpretive panels on-site would explain the history of the area or structures.

NPS headquarters would be in the Brackett, Morrell, and possibly Lockwood houses. The NPS maintenance facility would remain in its current location.

Visitors would access Camp Hill on their own initiative. Public access to the interior of historic structures, such as the Lockwood House, Brackett House, and others, would occur only for official business.

Bolivar Heights

Bolivar Heights would be maintained in its current condition as a battlefield site. The historic events that took place would continue to be interpreted with wayside exhibits.

The viewshed would be maintained in a semblance of its historic condition. Some trimming of vegetation could be done to open Civil War line-of-fire clearings.

Civil war earthworks, camps, and remnant structures would continue to be preserved and protected from damage or destruction.

Schoolhouse Ridge

The battlefield landscape and its viewshed within the national historical park would be maintained through the use of agricultural leasing and natural resource preservation policy.

Schoolhouse Ridge would be accessible to the public with visitor amenities such as trails, parking areas, and wayside exhibits provided.

Cultural resources such as Civil War earthworks, camps, and remnant structures would continue to be protected from damage or destruction. Nonhistoric structures would continue to molder or be removed if determined to be a safety hazard.

Nash Farm

Buildings at the Nash Farm would be maintained for NPS use and closed to the public. Visitors would be allowed to walk the grounds, but no visitor amenities such as restrooms would be provided.

Potomac Terrace

Grandview School under the no-action alternative would be used by the Resource Protection and Public Management Division. The exterior of the building would be preserved. The natural areas behind the school would be maintained.

Cavalier Heights

Cavalier Heights would continue to be the main entry point for the national historical park. The entrance station, visitor information facility, and small bookstore outlet would remain and serve their current functions. The NPS transportation system would shuttle visitors between Cavalier Heights and the Lower Town. The bus maintenance facility would remain in its current location.

Murphy Farm

Visitors would continue to access the Murphy Farm from Cavalier Heights by foot trail. No visitor amenities would be provided.

Civil War earthworks would not be stabilized. The (1895-1910) foundation of John Brown's Fort would undergo stabilization and continue to be interpreted.

Continued management under the no-action alternative would result in the stabilization and preservation of the Chambers/Murphy farmhouse. The interior would be adaptively reused for NPS purposes such as staff or volunteers living quarters. Through the continued use of agricultural leasing, a semblance of the historic farm would be maintained.

Maryland Heights, Loudoun Heights, and Short Hill

Natural areas of Maryland Heights, Loudoun Heights, and Short Hill would be managed to maintain or enhance natural resource values.

Preservation of cultural resources such as Civil War earthworks, camps, and remnant structures would continue. Nonhistoric structures would be allowed to molder unless they posed a safety hazard. At that point they would be removed. NPS staff would continue to use and maintain historic roads for maintenance and resource protection activities. Existing historic and scenic viewsheds on Maryland Heights would be maintained. Visitors would use existing trails, visit historic sites, view wayside exhibits and take in panoramic vistas.

Development of the Potomac Heritage National Scenic Trail along the river could provide a link between Short Hill, Potoma Wayside and Harpers Ferry.

Potoma Wayside

Potoma Wayside would continue to be maintained by NPS staff as the primary takeout point on the Potomac River at Harpers Ferry. Limited public access for enjoyment of Piney Creek falls and river use would be provided. The access trail to the falls and river would be maintained for safety and resource protection.

COST ESTIMATES

The following applies to costs presented throughout this general management plan:

- The costs are presented as estimates and allow for flexibility in application of components.
- These costs are not appropriate for budgeting purposes.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee that funding or staffing for proposed actions will be available.
- Full implementation of the general management plan may be many years in the future.

Costs have been broken down into annual operating costs and one-time costs. All estimates are in 2007 dollars.

Annual costs include the costs associated with ongoing maintenance, utilities, staffing, supplies and materials, and any leasing costs. This alternative would continue the staffing level of 92 full-time-equivalent positions or FTEs.

One-time costs reflect the current absence of projects in the no-action alternative that have been approved at the NPS program level and assigned to a funding source.

Annual operating costs:	$ 6,400,000
Includes 92 FTE positions	
Total one-time costs:	$ 0
Facility and non-facility cost:	$ 0
Other:	$ 0
Removal of buildings:	$ 0

ALTERNATIVE 2: PREFERRED ALTERNATIVE

GENERAL

Harpers Ferry National Historical Park would present 250 years of history at the site through exhibits at a new visitor center that provides an orientation to the site and encourages visitors to explore areas of the park that illustrate themes in park history. The park would be more easily accessible by round-the-park trail and an expanded transportation system that reaches most park locales in West Virginia. Park staff would bring life to the park by scheduling more festivals, events, and tours, and increasing the visibility of national historical park staff. Park offices would remain on Camp Hill in rehabilitated historic structures and a satellite maintenance facility would be constructed somewhere near the Murphy Farm or Schoolhouse Ridge to obviate the need for enlarging the existing facility. A public/private consortium would be sought to rehabilitate and manage the historic Shipley School.

Under this alternative, each location in the national historical park would be managed and interpreted to reflect the most significant period associated with it. For example, Schoolhouse Ridge would be managed to appear much as it did at the time of the Civil War while the Storer College area would be managed to appear as it did during its days as an educational institution, and Nash Farm would reflect a 1940s dairy farm appearance. Management activities would focus on the preservation of the resources as well as the presentation of the interpretive themes appropriate to each location. Visitors would receive a better understanding of certain events such as the Civil War at Harpers Ferry through a comprehensive Civil War auto tour and/or a trail system developed to connect outlying portions of the national historical park. Likewise, African American history in the national historical park would be elevated to its proper place by prominently exhibiting this history in buildings on Camp Hill. The Storer College and Niagara exhibits in Lower Town would be moved to Camp Hill. The NPS staff would work with partners throughout the tri-state area to promote protection of and visitation to the rich diversity of local history sites associated with Harpers Ferry in West Virginia, Maryland, and Virginia.

The route of the NPS transportation system (the Park Explorer) would be expanded and shuttle visitors from the visitor center directly to the NPS site(s) they wish to visit, including parts of the Civil War battlefield and Camp Hill. NPS staff would work with the community to promote solutions to difficult parking and traffic circulation issues in Lower Town that would enhance the visitor experience while respecting the needs of downtown businesses. A round-the-park trail would be developed to connect all outlying portions of the national historical park.

No boundary adjustments are proposed in this alternative.

MANAGEMENT ZONING

Historic Structure Zone

As described under alternatives 2 and 3 this zone would be applied to Lower Town, including the pier remains of a historic bridge across the Potomac River and the retired Potomac Edison Hydroelectric Plant.

Lower Town. Presenting the historic atmosphere and vitality of a living 19th century community in Lower Town would be accomplished through restored structures, authentic landscaping, restored interiors, period shops, and costumed interpreters. Additional venues, such as backyards, would be used for interpretation, living history

demonstrations, and display of animals such as a horse and carriage or mules. The section of the Appalachian National Scenic Trail that passes through the national historical park would be maintained to Appalachian Trail Conservancy standards. Improved trailside interpretive signs would be added north and south of the trail intersection to the Appalachian Trail Conservancy headquarters on Washington Street. The Appalachian National Scenic Trail, Potomac Heritage National Scenic Trail and The Lewis and Clark National Historical Trail would be interpreted in wayside exhibits in the Lower Town, to promote greater public awareness of these resources.

The information center and bookstore would move to Cavalier Heights to better serve visitors and evoke a more accurate presentation of the 19th century historic town. A smaller bookstore outlet would be developed elsewhere in Lower Town.

Historic building exteriors would remain unchanged from their current restored appearance. Unused first-floor interior spaces would be used for displays, exhibits, or the presentation of historic conditions such as former business establishments and offices. Changes to existing uses would also be expected. Second- and third-floor spaces would be used for exhibits or for seasonal staff housing.

Increased accessibility and use of historic structures for interpretive purposes would provide additional opportunities for the display of museum collections.

In The Green and Arsenal Square, the location of former prominent building foundations, could be capped with stone or use other interpretive methods to show the arrangement of former buildings.

An enhanced interpretation and education program would be delivered by park staff and volunteers. Visitors would access Lower Town using the NPS transportation system. During large special events conducted by the National Park Service, town of Harpers Ferry, and Main Street Harpers Ferry, vehicles in the event area would be regulated by a traffic control plan. Emergency vehicle uses would have access at all times.

The retired Potomac Edison Hydroelectric plant would be maintained and used for interpretation and other NPS purposes such as maintenance and preservation training. Additional work in the area of the Upper and Lower armory yards could include burying utility lines, stabilizing walls and foundations and providing for visitor safety.

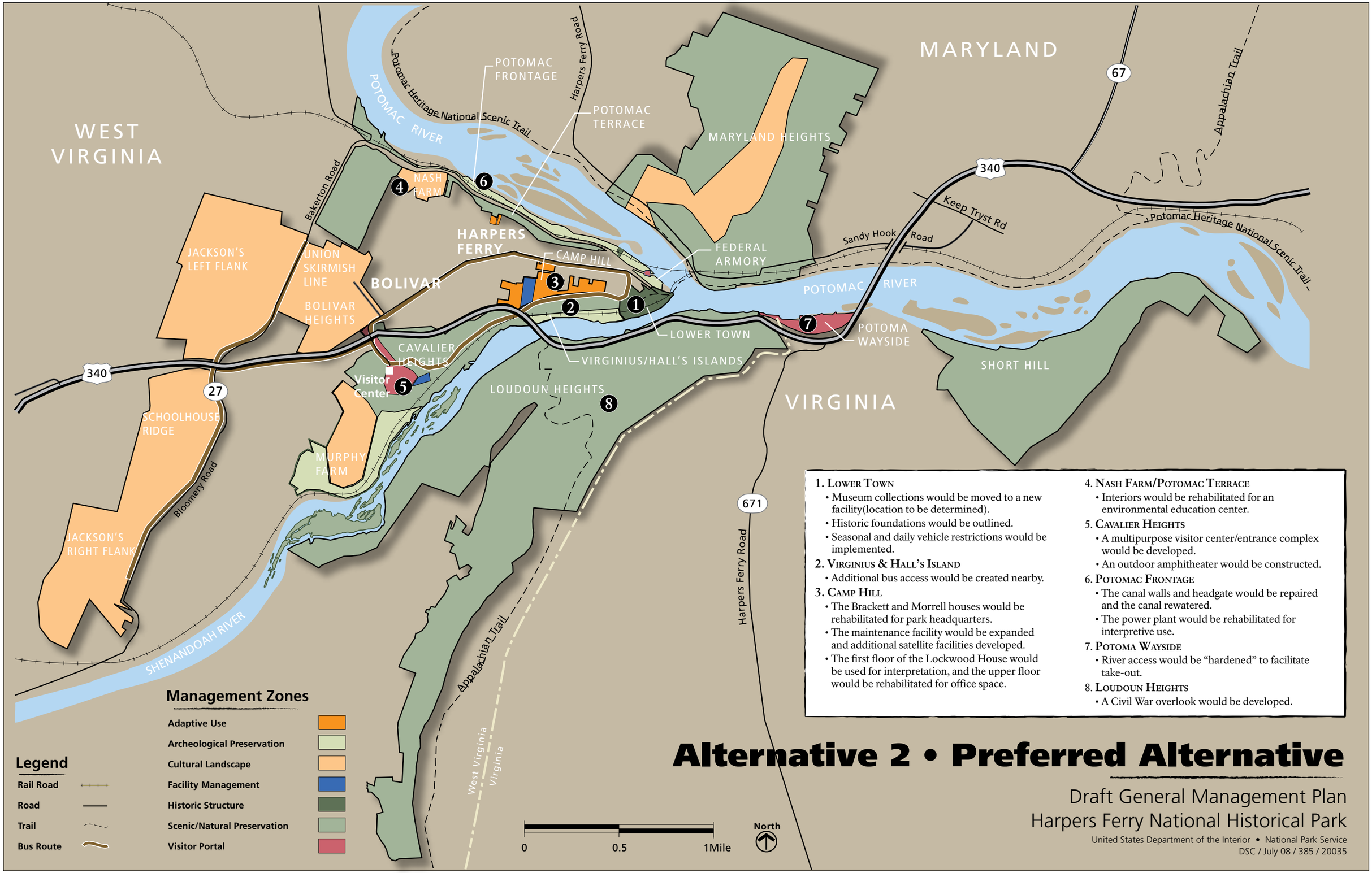
Adaptive Use Zone

This zone would be applied to Grandview School and Camp Hill, except for the NPS maintenance facility.

The interior of the Grandview school building would be adaptively reused by the NPS Resources Protection and Public Use Management Division. Vehicle bays and a small storage area would be added at this site complementing the building's appearance.

Camp Hill. Management focus on Camp Hill would be to preserve and use the structures while increasing visitation and promoting, understanding of African American history that occurred on Camp Hill.

The Lockwood House and immediate environs would be developed as a portal to attract pedestrian traffic from the Lower Town and Jefferson Rock. Trails would be improved, and interpretive waysides and a


WEST VIRGINIA
MARYLAND
VIRGINIA
POTOMAC RIVER
SHENANDOAH RIVER
Potomac Heritage National Scenic Trail
Appalachian Trail
Harpers Ferry Road
Bakerton Road
Bloomery Road
Keep Tryst Rd
Sandy Hook Road
340
67
27
671
POTOMAC FRONTAGE
POTOMAC TERRACE
MARYLAND HEIGHTS
NASH FARM
HARPERS FERRY
CAMP HILL
FEDERAL ARMORY
JACKSON'S LEFT FLANK
UNION SKIRMISH LINE
BOLIVAR
BOLIVAR HEIGHTS
CAVALIER HEIGHTS
Visitor Center
LOWER TOWN
VIRGINIUS/HALL'S ISLANDS
LOUDOUN HEIGHTS
POTOMA WAYSIDE
SHORT HILL
SCHOOLHOUSE RIDGE
MURPHY FARM
JACKSON'S RIGHT FLANK
West Virginia
Virginia
1
2
3
4
5
6
7
8
Management Zones
Adaptive Use
Archeological Preservation
Cultural Landscape
Facility Management
Historic Structure
Scenic/Natural Preservation
Visitor Portal
Legend
Rail Road
Road
Trail
Bus Route
0
0.5
1Mile
North
1. Lower Town
• Museum collections would be moved to a new facility(location to be determined).
• Historic foundations would be outlined.
• Seasonal and daily vehicle restrictions would be implemented.
2. Virginius & Hall's Island
• Additional bus access would be created nearby.
3. Camp Hill
• The Brackett and Morrell houses would be rehabilitated for park headquarters.
• The maintenance facility would be expanded and additional satellite facilities developed.
• The first floor of the Lockwood House would be used for interpretation, and the upper floor would be rehabilitated for office space.
4. Nash Farm/Potomac Terrace
• Interiors would be rehabilitated for an environmental education center.
5. Cavalier Heights
• A multipurpose visitor center/entrance complex would be developed.
• An outdoor amphitheater would be constructed.
6. Potomac Frontage
• The canal walls and headgate would be repaired and the canal rewatered.
• The power plant would be rehabilitated for interpretive use.
7. Potoma Wayside
• River access would be "hardened" to facilitate take-out.
8. Loudoun Heights
• A Civil War overlook would be developed.
Alternative 2 • Preferred Alternative
Draft General Management Plan
Harpers Ferry National Historical Park
United States Department of the Interior • National Park Service
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picnic area would be added. Public restrooms and first-floor interpretive exhibits would be built in the Lockwood House. These improvements to Camp Hill would make this part of the national historical park a destination area and support the presentation of African America history.

Pedestrian circulation between the Lockwood House and Anthony Hall would be promoted. Buildings on the Storer campus, where possible, would be opened to expanded public interpretation in addition to ongoing NPS administrative functions.

A study would be undertaken to determine the future office space needs of the Harpers Ferry National Historical Park, Harpers Ferry Center, Mather Training Center, Appalachian Trail Park Office, and the Potomac Heritage National Scenic Trail Office.

The Shipley School would be rehabilitated and managed through a public/private partnership. Although the structure would no longer serve a park function, it would continue to be a historically significant local structure on the landscape.

The National Park Service would restore Storer College buildings where sufficient information determined the extent and configuration of the structure.

The Morrell and Bracket houses would be rehabilitated for administrative space. Additional office space would be available in the Lockwood House.

Building exteriors would be stabilized or restored to the earliest period of documentable appearance within the national historical park's period of significance.

Visitors could access Camp Hill by an expanded route of the NPS transportation system (Park Explorer) or on hiking trails from the Lower Town.

National Historical Park museum collections would be moved into a new planned regional museum collection curatorial facility to be located somewhere in the Harpers Ferry vicinity.

A period lighting plan would be developed and implemented. The plan would be integrated into and be compatible with the historic campus and preserving the night sky.

Cultural Landscape Zone

This zone would be applied to sites of Civil War importance and African American and local settlement history.

Bolivar Heights. This Civil War battlefield site would be maintained as part of the Harpers Ferry battlefield. Visitors would access the entrance to Bolivar Heights by an expanded route of the NPS transportation system (Park Explorer), or by a self-guided auto tour. Seasonal ranger-led interpretive walks or demonstrations would be held here. Wayside interpretive exhibits would provide understanding of the historic significance of the area from 1861 to 1865 and to reflect battle actions at this site.

Line-of-fire clearings to Schoolhouse Ridge (avoiding development in the viewshed to the west) would be maintained to convey understanding of historic events.

Civil War earthworks, camps, and remnant structures would be stabilized and protected. The current program of preservation and protection would continue.

Schoolhouse Ridge. Civil War sites here would be managed as part of the Harpers Ferry battlefield. Through the continued use of NPS-managed agricultural leases and removal of nonnative vegetation, a semblance of the historic landscape would be restored.

After a program of evaluation of need and National Register of Historic Places eligibility, some buildings could be removed to enhance the historic setting and improve safety conditions. Impacts on any such buildings meeting national register criteria would be mitigated through consultation with the state historic preservation office and the Advisory Council on Historic Preservation.

Foot trails would be established to important points of interest, and a pedestrian bridge or tunnel would be constructed to connect the north and south sections of Schoolhouse Ridge battlefield, ensuring safe passage of visitors wishing to cross U.S. 340. Wayside exhibits would be installed to interpret the Civil War history of the Schoolhouse Ridge battlefield sites. Seasonal ranger-led interpretive walks and living history programs would be held on site. Visitors would access Schoolhouse Ridge battlefield by an expanded route of the NPS transportation system (Park Explorer) or from trailhead parking areas. A line of field artillery pieces could be strategically placed on the battlefield.

Facilities at the dilapidated former Jellystone campground would be removed and the land restored to a natural contour and managed under an agricultural lease. A small part of this area would be available as a primitive campsite for group camping.

Harpers Ferry Caverns would be restored to natural conditions by removing man-made intrusions and restoring natural airflow. After a risk management assessment is completed, access to the cave for recreation and research may be allowed through the NPS permit system.

Murphy Farm. The historic landscape of the Murphy Farm would be maintained through an NPS-managed agricultural lease. Visitors would access the Murphy Farm via an expanded route of the NPS transportation system (Park Explorer), a self-guided auto tour, or a walking trail. The trail on the farm would lead visitors to Civil War earthworks, an overlook of the Shenandoah River, and the former location of John Brown's Fort, a prominent site during the 1906 Niagara Movement Convention. Native American history would be interpreted on the farm. A paved parking area and restrooms would be provided at the farm. A small grouping of field artillery pieces could be strategically placed on the farm.

The Chambers/Murphy farmhouse would be stabilized and preserved in its present condition and evaluated for adaptive reuse.

The entire property would be inventoried for archeological and historic resources to identify all possible cultural resources.

A preservation and protection program for the Civil War earthworks would be developed and implemented. The remnant foundation of John Brown's Fort would be stabilized and preserved.

The Nash Farm. The Nash Farm would be restored as a mid-20th century farmscape and function as a small-scale resource education center with an outdoor laboratory used for day use and evening programs.

The center would be operated by the National Park Service or a private nonprofit education partner. Group access to the farm would be by small bus with limited vehicle parking provided. The farm would primarily serve school children; however, the public would have opportunities to participate in formal and informal program offerings.

Trails would be developed to connect the Nash Farm with Bolivar Heights and Lower Town.

Archeological Preservation Zone

This zone would preserve archeological resources in place. Under this alternative, it is applied to Virginius Island, Hall's Island, the

Armory grounds, and the Potomac Frontage (Armory canal).

Virginius and Hall's Islands. An active program of stabilization and preservation of remnant structures would be conducted on the islands. Some structure foundations would be located and exposed through archeological testing. Excavation on Hall's Island would be limited to exposing building foundations or other ruins providing interpretive and educational opportunities at this important historic site.

NPS staff could mark foundations of buildings where sufficient information existed to determine the extent and configuration of the structure.

Visitors would access the site from the Lower Town bus pavilion. Trails with wayside interpretation would guide visitors through the islands.

The wetland along Shenandoah Street and Shoreline Drive would be protected and interpreted. Natural vegetation would be preserved, except where it was causing damage to cultural resources and needed to be removed.

A pedestrian bridge to finish the Cavalier Heights to Lower Town trail would be constructed adjacent to the Shoreline Drive Bridge.

Federal Armory. The Federal Armory grounds would be maintained as an archeological preserve. Vegetative growth would be removed and the expanse of open space linking the town to the river would be once again established. The lower armory grounds would be linked to the upper armory grounds by means of a crossing beneath the railroad tracks to ensure safe visitor access.

Where possible, building foundations would be located through archeological testing. Stabilization and preservation activities would occur on exposed ruins. If original foundations are exposed for interpretation, appropriate measures would be implemented to protect archeological resources. NPS staff would mark foundations of buildings with stones or other means of interpretation where sufficient information existed to determine the configuration of prominent structures.

A variety of studies would be undertaken to investigate the suitability/feasibility of moving the John Brown's Fort to its original location by breaching or removing a portion of the railroad embankment. If feasible, this could also provide for pedestrian access to the armory grounds.

Potomac Frontage. An archeological survey and assessment of the Armory Canal would be conducted. A program of evaluation and long-term stabilization of the Armory canal walls and headgate structure would be initiated. The purpose of this program would be to re-water the canal to appear as it did during the historic industrial period. This could include actions such as removing vegetation from the canal prism, repointing, and replacing stone work and/or iron parts.

Visitor Portal Zone

In alternative 2, this zone would be applied to the area around the visitor center on Cavalier Heights, the train station, and Potoma Wayside.

Cavalier Heights. The undersized information center and associated facilities would be remodeled and expanded. The new facility would serve as the hub for future visitor orientation, information, and transportation. An enlarged visitor center, additional parking, prominent bookstore, theater, and restrooms would be provided. National historical park visitors would plan and begin their visit here. Picnicking space would be provided.

The transportation system (Park Explorer) would originate at the hub, the geographic center of the national historical park, and provide service to popular places or attractions. A pedestrian bridge would be built over Shoreline Drive to directly link Cavalier Heights with a trail to the Murphy Farm.

Train Station. The train station would be restored to its 1931 appearance and be used as a MARC commuter station, Amtrak stop, for visitor information and interpretation. The station parking lot would continue to serve multiple purposes — as parking for Amtrak/ MARC commuters, NPS visitors, and business district patrons. The national historical park would expand its interpretation of the transportation history in the vicinity of the train station, possibly acquiring and displaying a Civil War period locomotive. NPS staff would work with the town and Main Street Harpers Ferry to underground utilities and to provide adequate parking to improve the ambiance of Potomac Street and coordination of special events. The National Park Service would continue to encourage employees and local businesses to park at Cavalier Heights and use the NPS shuttle system to Lower Town to maximize parking spaces for visitors, patrons, and local residents at the train station and on Potomac Street.

Potoma Wayside. The river takeout would continue to be maintained and provide for public access. The access trail would be improved for safety and resource protection. A hardened take-out point would be built along the Potomac. Restrooms would be provided.

Facility Management Zone

In alternative 2, this zone would be applied to the maintenance facility in its current location on Camp Hill and to an area on Cavalier Heights around the bus maintenance garage.

Scenic/Natural Preservation Zone

The purpose of this zone would be to maintain existing natural conditions and restore disturbed areas. Scenic viewsheds throughout the national historical park would be preserved. The gypsy moth would continue to be managed to protect the scenic vistas of Loudon and Maryland Heights and Short Hill. This zone would be applied to the outlying heights, parts of riverfronts, and other areas comprising about 63% of the national historical park.

Potomac Terrace. Existing natural areas on the terrace would be preserved. The Old Furnace Road bed would be incorporated into the national historical park's trail system. John Brown's Cave would be restored to its natural condition by removing the steel plate at the entrance to the cave and installing a bat-friendly gate.

Maryland Heights. Historic roads would be maintained for hikers and NPS vehicles required for maintenance, resource protection, and rescue activities.

Historic military line-of-fire clearings around the batteries and fortification on Maryland Heights would be maintained. The deer herd would be studied to determine its part in a healthy ecosystem and whether population control is an issue.

Visitors would have access to trails, historic sites, and on-site interpretation. Wayside exhibits will convey the Civil War and iron-industry stories that occurred here.

Historic properties would be evaluated. Properties such as Civil War earthworks, camps, and remnant structures, would be stabilized and protected from human and natural impacts. A preservation and protection program for the Civil War earthworks would be developed and implemented.

Loudoun Heights. NPS staff would work with the utility companies to mitigate the impacts of overhead utility lines in natural areas. The National Park Service would continue to work with the states of Virginia, Maryland, and West Virginia on the consideration of a highway bypass around Harpers Ferry. The nonhistoric Sherwood house would be removed. A Civil War overlook with wayside interpretation would be constructed in its place. This site would include a vista opened on the Loudoun plateau overlooking the Shenandoah River and battlefield positions on Bolivar Heights, Camp Hill, and the Murphy Farm. Visitors would access the vista by vehicle from Chestnut Hill Road or a side trail from the Appalachian National Scenic Trail. A small parking area would be installed for visitors following a self-guided Civil War auto tour.

Historic properties would be further identified and evaluated. A preservation and protection program for Civil War earthworks, camps, and remnant structures would be developed and implemented.

Short Hill. Like all outlying natural areas, Short Hill would be actively managed to maintain or enhance natural processes for nonnative species control and protection of rare native species. Historic roads would continue to be used and maintained at a minimal level by park staff for maintenance and resource protection activities.

An archeological survey and inventory of the Short Hill property would be conducted. This study would assist in the protection and preservation of cultural resources on Short Hill.

COST ESTIMATES

The following applies to costs presented throughout this general management plan:

- The costs are presented as estimates and allow for flexibility in application of components.
- These costs are not appropriate for budgeting purposes.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee that funding or staffing for proposed actions will be available.
- Full implementation of the general management plan may be many years in the future.

Costs have been broken down into annual operating costs and one-time costs. All estimates are in 2007 dollars.

Annual costs include the costs associated with ongoing maintenance, utilities, staffing, supplies, and materials.

Staffing levels needed to fully implement the alternative are proposed at 95 full-time equivalent positions (FTEs). The number of positions is higher than alternative 1, reflecting the additional seasonal positions needed to staff facilities in Lower Town proposed for expanded NPS interpretation. Among the projects included in the one-time costs are the rehabilitation of building interiors in Lower Town, rehabilitation/ restoration of the Morell, Brackett, and Lockwood houses, removal of the campground and restoration of the caverns, a new visitor center complex, rehabilitation of the power plant for exhibits, and restoration

and rewatering of the Armory Canal. These projects constitute the majority of capital investments proposed in alternative 2. The "Other category includes research projects, studies, and documentation.

Annual operating costs:	$ 6,600,000
Includes 95 FTE positions	
Total one-time costs:	$17,900,000
Facility and non-facility cost:	$17,700,000
Other	$ 200,000
Removal of buildings:	$0

ALTERNATIVE 3

GENERAL

Harpers Ferry National Historical Park would become a gateway to the West Virginia, Maryland, Virginia region as well as the park through a cooperative visitor center complex at Cavalier Heights. Through the use of partners and concessioners the park would increase its ability to bring life and activity to all areas of the park. This partnership would allow additional interpretation, preservation of additional historic resources, and maintenance of facilities as well as a seamless transportation system that serves both the park and the local community. A round-the-park trail would also connect the park to the regional trail system. A new headquarters building and maintenance facility would be constructed outside Camp Hill to allow restoration of the historic structures for interpretive purposes and the landscape to the Storer College period. The Shipley School would either be removed and the site landscaped or rehabilitated under a public/private partnership.

Alternative three is similar to alternative two in that each location in the national historical park would be managed and interpreted to reflect the most significant period associated with it. Some structures, facilities, and agricultural lands would be leased to non-NPS entities to ensure their continued used and upkeep and to lessen the financial burden on the federal government. The African American history in the national historical park would be interpreted prominently in Storer college buildings on Camp Hill. Visitors would be offered a greater diversity of experience and program opportunities, some of which could be provided through fee-based commercial enterprises. NPS staff would partner with the regional tourism industry to promote visitation to a variety of historic sites.

In this alternative, the transportation system would be operated in partnership with Main Street Harpers Ferry and expanded to incorporate stops in Harpers Ferry and possibly Bolivar. Partnerships would be sought with Amtrak and MARC to schedule excursion trains from Washington, D.C., to the national historical park. A round-the-national-historical-park trail would be developed with connections to regional trails.

No boundary adjustments are proposed in this plan.

MANAGEMENT ZONING

Historic Structure Zone

This zone would be applied to Lower Town, including the remains of a historic bridge across the Potomac River and the Potomac Power Hydroelectric Plant.

Lower Town. To enhance the visitor experience in Lower Town, partnerships would be developed with private businesses to establish and maintain commercial operations within the national historical park's historic structures appropriate to the time period. Examples of such commercial operations could be a clothing store that carries clothing of the period and caters to Civil War reenactors, a bakery that would sell baked goods, or a period photography gallery. All historic buildings in Lower Town would be evaluated for such conversion. Care would be taken to ensure that such businesses would not compete with existing private businesses in Lower Town. The goal of this alternative would be to bring more activity and a greater diversity of experiences to draw more visitors to Lower Town.

NPS staff would work with the community to seek innovative parking and traffic solutions

within all of Lower Town in addition to an expanded shuttle bus route. A small satellite bookstore would continue to operate in Lower Town, but the main bookstore would be combined with a new visitor information center at Cavalier Heights to provide a larger sales area and convenient shopping location for park visitors.

Building exteriors would maintain their current restored appearance. Interior spaces would be gradually converted to commercial use. Selected areas behind buildings could be used by the lessee to support interpretive stories or to accommodate period displays or events.

Museum collections would continue to be used in interpretive exhibits and displayed in locations such as the Master Armorer's House. As buildings are leased museum collections would be moved to exhibits at the new visitor center on Cavalier Heights or placed into storage. Curatorial and storage functions would be moved from Lower Town buildings.

National historical park concessioners could provide some of the interpretive programming or demonstrations. For example, a shop selling needlework or weaving supplies could provide demonstrations on period quilt making or how to weave.

NPS and private vehicles could be strictly regulated in the Lower Town during special events or possibly seasonally to provide a more accurate historical setting. Emergency vehicles would have access at all times.

The Potomac Hydroelectric power plant building would be made available for use by the NPS Historic Preservation Training Center or a similar historic preservation group.

Demonstration of historic preservation techniques by artisans/crafters could help visitors to understand the effort that goes into preserving a site like Harpers Ferry National Historical Park.

Adaptive Use Zone

Under this alternative, Grandview School and all NPS land on Camp Hill would be placed in this zone.

Camp Hill. The Shipley School would be managed and rehabilitated by a public-private partnership dedicated to its preservation and adaptive reuse. If such a partnership proves infeasible the structure will be removed following appropriate consultation with the State Historic Preservation Officer.

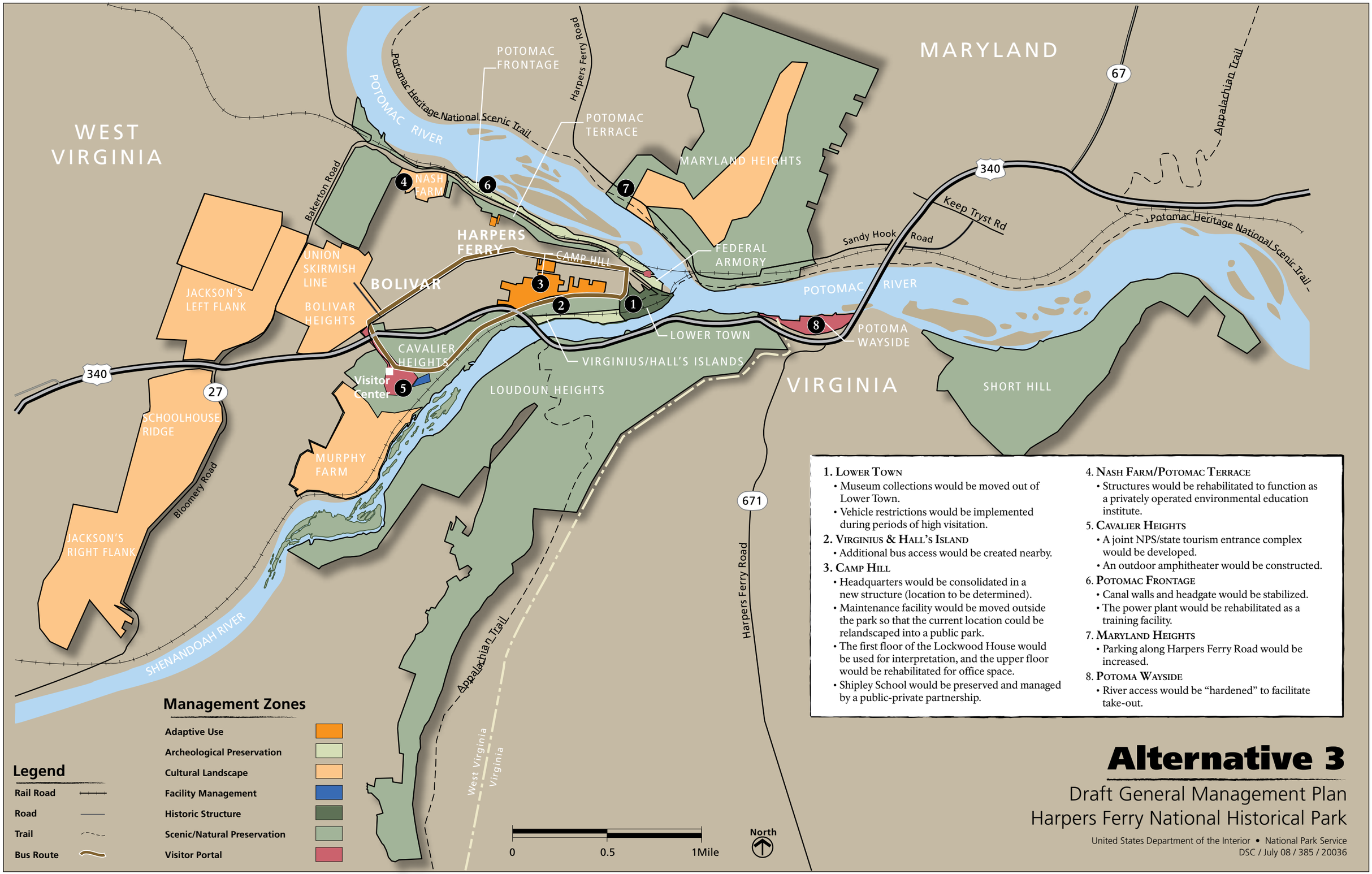
The Storer College portion of Camp Hill would be managed to reflect the historic college campus from 1867 to1955. Building exteriors would be studied and restored.

The Brackett and Morrell houses would be rehabilitated to house interpretive exhibits, many of which will come from Lower Town buildings.

The museum storage now in the Lockwood house and in Lower Town would be removed and combined in a new state-of-the-art facility on Camp Hill. The first floor would continue to provide interpretive display space, and other floors would be used for other park purposes.

Development and implementation of a period lighting plan would complement the historic college setting.

Visitors to Camp Hill would find increased access to, and information on, Camp Hill's military history and Storer College. Interpretation would be expanded through signs and wayside exhibits on the grounds, and interpretive exhibits.



1. Lower Town
   - Museum collections would be moved out of Lower Town.
   - Vehicle restrictions would be implemented during periods of high visitation.
2. Virginius & Hall's Island
   - Additional bus access would be created nearby.
3. Camp Hill
   - Headquarters would be consolidated in a new structure (location to be determined).
   - Maintenance facility would be moved outside the park so that the current location could be relandscaped into a public park.
   - The first floor of the Lockwood House would be used for interpretation, and the upper floor would be rehabilitated for office space.
   - Shipley School would be preserved and managed by a public-private partnership.
4. Nash Farm/Potomac Terrace
   - Structures would be rehabilitated to function as a privately operated environmental education institute.
5. Cavalier Heights
   - A joint NPS/state tourism entrance complex would be developed.
   - An outdoor amphitheater would be constructed.
6. Potomac Frontage
   - Canal walls and headgate would be stabilized.
   - The power plant would be rehabilitated as a training facility.
7. Maryland Heights
   - Parking along Harpers Ferry Road would be increased.
8. Potoma Wayside
   - River access would be "hardened" to facilitate take-out.

Alternative 3

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The expanded route of the bus system serving the national historical park would have one or more stops on Camp Hill.

The park maintenance facility would be moved outside the national historical park, and the former site would be turned into green open space.

The interior of the Grandview school building would be adaptively rehabilitated for use by the national historical park's Resources Protection and Public Management Division. Vehicle bays and a small storage area would be added complementing the building's appearance.

Existing natural areas behind the school and on the slopes down to the river would be preserved. Interpretive panels near the building could provide the history of the school and explain its relationship to the national historical park's African-American interpretive theme.

Cultural Landscape Zone

Cultural Landscape zoning would be applied to sites of Civil War activity including the Murphy Farm and the Nash Farm.

Bolivar Heights. This Civil War battlefield site would be maintained as part of the Harpers Ferry battlefield. Visitors would access the entrance to Bolivar Heights via the expanded route of the NPS transportation system (Park Explorer), or via a self-guided auto tour. Occasional ranger-led interpretive walks or demonstrations would be held here. Wayside interpretive exhibits would provide understanding of the historic significance of the area from 1861 to 1865 and to reflect battle actions at this site. Line-of-fire clearings to Schoolhouse Ridge would be maintained.

The Civil war earthworks would be stabilized and protected from human and natural impacts.

Schoolhouse Ridge. The Civil War battlefield sites referred to as Schoolhouse Ridge would be maintained in agricultural leases to represent the historic character of the battlefield in 1862.

After a program of evaluation of need and National Register of Historic Places eligibility, some buildings could be removed to enhance the historic setting. Any such buildings meeting national register criteria would be mitigated through consultation with the state historic preservation office and the Advisory Council on Historic Preservation. Additional research could identify other historic or archeological properties on Schoolhouse Ridge that should be evaluated and preserved. A preservation and protection program for the existing Civil War earthworks would be developed and implemented.

Additional foot trails around the battlefield sites and connecting with trails to other areas of the national historical park would be constructed. Interpretive walks or demonstrations would be held, some of which would be conducted by national historical park partners or a park concessioner. Visitors would access these sites on their own. There would be no bus access.

NPS staff would work with the West Virginia Department of Highways to determine the feasibility of a pedestrian tunnel or overpass crossing U.S. 340 at Bakerton and Bloomery Roads. This tunnel or overpass would provide a safe means of access for visitors hiking between the north and south battlefield sites.

Harpers Ferry Caverns would be restored to as natural a condition as possible. The caverns would be accessed only by groups with an NPS permit.

The former campground would be downgraded to a primitive camping area for group activities related to the national historical park's interpretive and educational mission. All aboveground structures would be

removed, and the landscape would be managed under an agricultural lease.

Murphy Farm. The historic landscape of the Murphy Farm would be maintained through an NPS-managed agricultural lease. Primitive trails would provide for visitors to see Civil War earthworks, a scenic overlook of the Shenandoah River, and the former site of John Brown's Fort. The Murphy/ Chambers farmhouse would be used for interpretation or available for historic leasing. A parking area and restrooms could be provided.

An identification and evaluation of all archeological and historic resources would be undertaken. A preservation and protection program for the Civil War earthworks would also be developed and implemented.

The remnant foundation of John Brown's Fort would be stabilized and preserved.

The Nash Farm. The farm would be maintained as a mid-20th century farmscape reflecting its history as a dairy farm. The National Park Service would partner with an educational group to maintain the property and operate it as a small-scale environmental education center. Building interiors would be adaptively used to accommodate classroom uses.

The proposed use could take several forms. It could be a small-scale environmental education center, teaching children and adults about the environment, or a research facility working to identify solutions to local, state, or regional planning and environmental issues. As an NPS facility, any tenant would be expected to also provide opportunities for visitors and staff to participate and learn from their activities.

There would be no access from the expanded bus route of the NPS shuttle system. Children would arrive by school bus and visitors by car. Parking would also be provided for staff. Trails would be developed to connect the Nash Farm with Bolivar Heights and Lower Town.

Archeological Preservation Zone

This zone would be used to preserve archeological resources in place. Under this alternative, this zone would be applied to Virginius Island, Hall's Island, the Armory grounds, and the Potomac Frontage (Armory canal). This zone would be smaller in this alternative than other alternatives.

Virginius and Hall's Islands. Management of these islands would showcase and interpret stabilized structural ruins and outlined or "ghosted" foundations associated with the manufacturing history of the islands. A large part of this story would be the struggle between man and the forces of nature trying to reclaim the islands.

An ongoing program of stabilization and preservation of remnant archeological structures would be conducted. Some structural foundations would be located and exposed through archeological testing. Excavation would be limited to exposing building foundations or other ruins that would provide interpretive opportunities.

Existing wetlands and other areas of natural significance would be protected. Trails would be routed to avoid such sites or designed to mitigate adverse effects, and wayside interpretation would explain their importance. A new stop on the bus route near the old pulp mill would allow visitors to exit at Hall's Island. New trails and waysides would allow visitors a better appreciation of the resources and importance of this area.

Federal Armory. The Federal Armory grounds would be maintained as an archeological preserve. A universally accessible trail would be developed to access the grounds. A viewing platform along the river wall could be provided for visitors to overlook the armory

and the views of the Potomac River and Maryland Heights.

Where possible, building foundations would be located through archeological testing. Capping the foundations with stone would allow the historic structures to be better interpreted. Stabilization and preservation activities would occur on any exposed ruins.

Wayside exhibits would help to explain the former uses of the structures within the armory grounds but most visitors' understanding of the site would come from exhibits and an audiovisual program in the visitor center or ranger-led programs.

The Armory Fire Engine House (John Brown's Fort) would be maintained in its current location.

Potomac Frontage. The Armory canal walls, headgate structure, and channels associated with the #3 diversion dam would be stabilized (but not rewatered) and preserved. This would maintain the integrity of the historic canal well into the future. Some re-growth of vegetation would be allowed to continue in the Armory canal as long as it did not jeopardize the integrity of the canal walls.

A trail along the canal would be developed to provide for visitors and local users to access the area. Waysides could be developed and installed to explain the workings and purposes of the canal. Birders and fishermen would have more convenient access. The entrance to John Brown's Cave would be secured to discourage unauthorized access.

Visitor Portal Zone

Under alternative 3, this zone would be applied around the visitor center on Cavalier Heights, the train station, and Potoma Wayside.

Cavalier Heights. New visitor facilities at Cavalier Heights would become a primary source for national historical park and regional information and the NPS shuttle system, and a venue for special events. The national historical park would partner with city, county, and state visitors bureaus to provide national historical park, local, and regional information about sites, events, and activities available to visitors.

Facilities would include an expanded, jointly managed regional visitor center with a theater, exhibits, main NPS bookstore, and offices. A formal picnic area would be constructed on the grounds. Fees would be collected within the new NPS visitor facility.

Train Station. No additional changes or alterations to the train station or its use as a commuter station, visitor information and NPS fee collection point would occur. The station parking lot would continue to serve multiple purposes for Amtrak/MARC commuters, park visitors, and shop patrons.

Potoma Wayside. The river take-out point would continue to be used for public access to and from the Potomac River. Maintenance would be the responsibility of the national historical park augmented by the whitewater river-running companies that use the site. The trail would be improved for safety and resource protection. Restrooms could be provided.

Facility Management Zone

This zone would be the smallest in size under this alternative because the NPS maintenance facility and yard would be moved out of the national historical park. The zone would be applied only to the bus maintenance garage on Cavalier Heights, which would be jointly operated between the National Park Service and a regional transportation company.

Scenic/Natural Preservation Zone

This zone would be used to protect scenic viewsheds and areas that are primarily in a natural condition. It would be applied to the outlying heights, portions of riverfronts, and other areas comprising about 67% of the national historical park. The gypsy moth would continue to be managed to protect the scenic vistas of Loudon and Maryland Heights and Short Hill.

Maryland Heights. This area would be actively managed to maintain or enhance natural resource values. The deer herd on Maryland Heights would be studied to determine if population control was needed to maintain a healthy, functioning ecosystem.

In some areas historic viewsheds would be opened and maintained. Visitors would have access to existing trails, historic sites, and on-site interpretation.

An evaluation of all archeological and historic resources would be undertaken. Properties such as Civil War earthworks, camps, and remnant structures would be stabilized and protected from human and natural impacts.

Loudoun Heights. An evaluation of all archeological and historic properties would be undertaken. Properties such as Civil War earthworks, camps, and remnant structures would be stabilized and protected from human and natural impacts. Nonhistoric structures such as the Sherwood house would be allowed to deteriorate. If they were determined to be a safety hazard they would be removed.

The Appalachian Trail would be maintained through the national historical park by the Appalachian Trail Conservancy volunteers and support offices. NPS staff would work with utility companies to lessen the impacts of overhead utility lines in natural areas.

The national historical park would also work with the state of Virginia on the possibility of moving U.S. Highway 340 to lessen the impact of traffic on the national historical park or creating a bypass around the park.

Short Hill. Like all outlying areas, natural resource management would focus on nonnative species control and the protection of rare native species. Archeological and historic resources would be identified and preserved. Related scientific research by outside agencies or institutions would be encouraged.

COST ESTIMATES

The following applies to costs presented throughout this general management plan:

- The costs are presented as estimates and allow for flexibility in application of components.
- These costs are not appropriate for budgeting purposes.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee that funding or staffing for proposed actions will be available.
- Full implementation of the general management plan may be many years in the future.

Costs have been broken down into annual operating costs and one-time costs. All estimates are in 2007 dollars.

Annual costs include the costs associated with ongoing maintenance, utilities, staffing, supplies and materials, and any leasing costs. Staffing levels needed to carry out the

alternative are proposed at 92 full-time equivalent positions (FTEs), the same as the no-action alternative. This reflects the impact of concessioners providing some of the interpretation in Lower Town.

Among the major one-time cost items in alternative 3 are the removal of the maintenance facility, restoration/rehabilitation work on the Morrell, Brackett, and Lockwood houses, a new headquarters building, rehabilitation work at the Nash farm, rehabilitation of the Murphy farmhouse, stabilization of the Armory canal walls, rehabilitation of the power plant, construction of a new visitor center facility, and rehabilitation of the Grandview School.

Annual operating costs:	$ 6,300,000
Includes 92 FTE positions	
Total one-time costs:	$ 24,200,000
Facility and non-facility cost:	$ 23,600,000
Other:	$ 200,000
Removal of buildings:	$ 400,000

MITIGATIVE MEASURES COMMON TO ALL ACTION ALTERNATIVES

Congress charged the National Park Service with managing the lands under its stewardship "in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (NPS Organic Act, 16 USC 1). As a result, the National Park Service routinely evaluates its actions and implements mitigation whenever conditions occur that could adversely affect the sustainability of national park system resources.

To ensure that implementation of the action alternatives protects unimpaired natural and cultural resources and the quality of the visitor experience, a consistent set of mitigation measures would be applied to actions proposed in this plan. The National Park Service would prepare appropriate environmental review (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable. The implementation of a compliance-monitoring program could be considered to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.

The following mitigating measures and best management practices would be applied to avoid or minimize potential impacts from implementation of the alternatives. These measures would apply to all alternatives.

CULTURAL RESOURCES MITIGATION

Actions outlined in the alternatives identified in this *General Management Plan*, are subject to the requirements identified in the NPS *Management Policies* and DO-28 and its accompanying "Cultural Resources Management Guideline." In addition, compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended), and its implementing regulations (36 CFR 800) the National Park Service must take into consideration the effects of the undertaking on resources either listed in or eligible for inclusion in the National Register of Historic Places.

In addition, in order to comply with these requirements development of acceptable and appropriate strategies to mitigate any adverse effects resulting from implementation of the selected alternative will be developed in consultation with the appropriate state historic preservation office, under the current Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and National Conference of State Historic Preservation Officers.

The National Park Service would preserve and protect, to the greatest extent possible, resources that reflect human occupation of Harpers Ferry National Historical Park. Mitigation measures could include, but are not necessarily limited to the following types of actions:

- Whenever possible, project design features would be modified to avoid impacts to cultural resources. New developments would be relatively limited and would be located on sites that blend with cultural landscapes. If appropriate, historic vegetative screening would be used to minimize impacts on cultural landscapes.
- Wherever possible, projects and facilities would be located in previously disturbed or existing developed areas. Facilities

would be located to avoid known or suspected archeological resources.

- Archeological data recovery excavations would be primarily limited to sites threatened with destruction where protection or site avoidance during design and construction is infeasible. Should archeological resources be discovered, during construction or other NPS activities, work would be stopped in that location until the resources were properly recorded by the National Park Service and evaluated under the eligibility criteria of the National Register of Historic Places. If in the subsequent consultation with the appropriate West Virginia, Maryland, or Virginia State Historic Preservation office the resource is determined eligible, appropriate measures to either avoid or ameliorate further resource impacts necessary to mitigate the loss or disturbance of the resource would be implemented.
- If previously unidentified archeological resources or human remains are unearthed during construction activities, work in the discovery area would be stopped immediately, and the NPS superintendent and the contracting officer would be notified. Measures would be instituted to protect the remains and the superintendent would notify the state historic preservation officer. Any artifacts found in association with the remains, funerary objects, sacred objects, and objects of cultural patrimony, would be left in place. If the remains were determined to be of American Indian origin, the superintendent would notify associated tribes according to the Native American Graves Protection and Repatriation Act and its implementing regulations.
- Mitigation measures for buildings, structures, and landscapes include documentation according to standards of the Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey (HABS/HAER/HALS). The level of this documentation would depend on the level of significance (national, state, or local) and individual attributes and be determined in consultation with the state historic preservation officer. When demolition of a historic structure is proposed, architectural elements and objects may be salvaged for reuse in rehabilitating similar structures, or they may be added to the NPS museum collection. In addition, the historical alteration of the human environment and reasons for that alteration would be interpreted to national historical park visitors.
- No national register-listed or -eligible building or structure would be removed without prior review by park and region cultural resource specialists, including approval by the regional director, and consultation with the appropriate state historic preservation office. Before a national register-listed or -eligible structure is removed, appropriate documentation recording the structure would be prepared in accordance with Section 110 (b) of the National Historic Preservation Act and the documentation submitted to the HABS/HAER/HALS program.
- Prior to demolition of any national register-listed or -eligible building or structure, a survey for archeological resources in the general vicinity of the affected structure would be designed and conducted in consultation with the appropriate state historic preservation office. The excavation, recordation, and mapping of any significant cultural remains would be completed prior to demolition to ensure that important archeological data that otherwise would be lost is recovered and documented.
- Avoid adverse impacts through following the guidelines presented in the *Secretary of the Interior's Standards for Archeology and Historic Preservation*, and the Secretary of the Interior's Standards for the Treatment of Historic Properties, with

Guidelines for the Treatment of Cultural Landscapes;
- Encourage visitors through the NPS interpretive programs to respect and leave cultural resources undisturbed.

NATURAL RESOURCES MITIGATION

The following measures, when applied to a construction project or other surface-disturbing action, are intended to reduce the severity or scope of adverse impacts to natural resources from such a project. A construction project would also have site-specific environmental analysis completed before work begins. This analysis would also recommend additional mitigation specific to the type of project and its location.

Nonnative Species

- Implement a noxious weed abatement program. Standard measures could include the following elements: ensure construction-related equipment arrives on-site free of mud or feed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds pre-construction, treat noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.

Soils

- Build new facilities on soils suitable for development. Minimize soil erosion by limiting the time that soil was left exposed and by applying other erosion control measures, such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work was completed, revegetate construction areas with native plants in a timely period.

Threatened and Endangered Species and Species of Concern

Mitigation actions would occur during normal NPS operations as well as before, during, and after construction to minimize immediate and long-term impacts to rare, threatened, and endangered species. These actions would vary by specific project and area of the national historical park affected. Mitigation actions specific to rare, threatened, and endangered species would include the following:

- Conduct surveys for rare, threatened, and endangered species as warranted.
- Locate and design facilities/actions to avoid adverse effects on rare, threatened, and endangered species. If avoidance is infeasible, minimize and compensate adverse effects on rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Schedule construction to avoid critical seasons for local species.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.

Vegetation

- Monitor areas used by visitors (e.g., trails) for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from trail erosion or social trailing.

- Designate river access/crossing points, and use barriers and closures to prevent trampling and loss of riparian vegetation.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans should specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvaged vegetation should be reused to the maximum extent possible.

Wildlife

- Employ techniques to reduce impacts on wildlife, including visitor education programs, restrictions on visitor activities, and ranger patrols.
- Implement a natural resource protection program. Standard measures would include construction scheduling, biological monitoring, erosion and sediment control, the use of fencing or other means to protect sensitive resources adjacent to construction, the removal of all food-related items or rubbish, topsoil salvage, and revegetation. This could include specific construction monitoring by resource specialists as well as treatment and reporting procedures.

Water Resources

- To prevent water pollution during construction, use erosion control measures, minimize discharge to water bodies, and regularly inspect construction equipment for leaks of petroleum and other chemicals.
- Minimize the use of heavy equipment in waterways.
- Build a runoff filtration system to minimize water pollution from larger parking areas.
- Provide storm water management planning to protect water quality and quantity.

Wetlands

- Delineate wetlands and apply protection measures during construction. Wetlands would be delineated by qualified NPS staff or certified wetland specialists and clearly marked before construction work. Perform construction activities in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.

SUSTAINABLE DESIGN AND AESTHETICS

- Projects would avoid or minimize adverse impacts on natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) would be designed to work in harmony with the surroundings, particularly in historic districts. Projects would reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects would be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Environmentally preferred is defined as "the alternative that will promote the national environmental policy as expressed in Section 101 of the National Environmental Policy Act." Basically, the environmentally preferred alternative would cause the least damage to the biological and physical environment and best protect, preserve, and enhance cultural and natural resources. Section 101 of the act states that "it is the continuing responsibility of the Federal Government to

1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
(2) assure 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 to health or safety, or other undesirable and unintended consequences;
(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choices;
(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

After the environmental consequences of the alternatives were analyzed, each alternative was evaluated as to how well the goals stated above would be met. The following discussion highlights how each alternative meets these goals.

Two of the above goals failed to make a difference in determining the environmentally preferred alternative and were not used in the determination. Goal 1 is satisfied by each of the alternatives because Harpers Ferry is a national park system unit and as the steward of these units, the National Park Service would continue to fulfill its mandate to protect Harpers Ferry National Historical Park for future generations. Goal 6 was determined not to be applicable to the scope of this general management plan although recycling of materials would be encouraged in all alternatives.

Alternative 1 (no action) represents a continuation of the present course of park management. The no-action alternative would respond to resource impacts and visitor demands as they occur rather than formulating a plan to address potential issues proactively. Because of this, it lacks the range of diversity and individual choices found in the other alternatives. It also does not provide as much resource protection as the other alternatives — more resource impacts would be expected with increasing use levels in the no-action alternative. Thus, compared with the preferred alternative, the no-action alternative does not fulfill as well the following national environmental policy goals:

- attain the widest range of beneficial uses of the environment without degradation
- preserve important natural aspects and maintain an environment that supports diversity and variety of individual choice
- achieve a balance between population and resource use

Alternative 2 (NPS preferred alternative) provides a high level of protection of natural and cultural resources while concurrently providing for a wide range of neutral and beneficial uses of the environment, fully meeting goals 3 and 5. The alternative integrates resource protection while maintaining an environment that supports a diversity and variety of appropriate visitor uses, fully meeting goals 2 and 4. The preferred alterna-

tive surpasses the other alternatives in realizing the national environmental policy goals.

Alternative 3, through zoning, has a slight reduction in the size of developable portions of the national historical park, which would partially fulfill resource preservation goals (3 and 4). Visitor use opportunities at Harpers Ferry would be expanded fulfilling visitor experience goals 2 and 5. However, with the expansion of trails on Short Hill, there could be a greater potential for impacts on bald eagles, a federally listed threatened species, under this alternative when compared with other alternatives. Thus, alternative 3 does not meet the policy goals as well as alternative 2 regarding attainment of the widest range of beneficial uses without resource degradation and risk to health or safety and preserving important cultural and natural aspects.

After analyzing each of the alternatives with all applicable goals, the planning team has determined that the environmentally preferred alternative for Harpers Ferry National Historical Park is alternative 2, the NPS preferred alternative.

ADDITIONAL STUDIES AND IMPLEMENTATION PLANS NEEDED

Other, more detailed, studies and plans will be required to implement specific actions after the general management plan is approved. Baseline research reports provide the background and basis for making management decisions. These reports provide specific information regarding presence or absence of archeological resources, site history, site condition, appropriateness of further archeological survey and analysis, and other data necessary to make informed management decisions. These reports would need to be completed before more specialized planning studies are undertaken.

ARCHEOLOGICAL OVERVIEW AND ASSESSMENT

This report describes and assesses the known and potential archeological resources in the national historical park. The overview section reviews and summarizes existing archeological data. The assessment section evaluates the data. The full report assesses past work and helps determine the need for and design of future studies. The report may be for the entire national historical park or for specific areas in the park. The report does not constitute an inventory of all archeological resources that may exist and does not include any archeological fieldwork.

Status:
Two overviews, one for Maryland Heights and one for Loudoun Heights, have been completed. A third is in draft form and covers Bolivar Heights.

ARCHEOLOGICAL IDENTIFICATION/ EVALUATION STUDIES

Archeological Identification and Evaluation Studies report on the fieldwork undertaken to inventory and assess the significance of prehistoric and historic archeological resources existing in the national historical park area or a specific section of the park. Such studies are undertaken based on the recommendations made in the previous *Archeological Overview and Assessment* reports.

Numerous major archeological identification and evaluation studies have been completed in the national historical park but have been limited almost exclusively to the Lower Town area. Smaller, focused, reports conducted for compliance with laws and regulations have been produced since the national historical park was established.

Four proposed Identification and Assessment studies have been noted and wait funding. These studies are at the Hall's Rifle factory, on Camp Hill, the Murphy Farm, and the armory grounds. Additionally, this plan will result in the need to fund two additional studies, one for the Armory canal and one for the Schoolhouse Ridge battlefield.

ETHNOGRAPHIC OVERVIEW AND ASSESSMENT

This basic report emphasizes the review and analysis of accessible archival and documentary data on national historical park ethnographic resources and the groups who traditionally define such cultural and natural features as important to their ethnic heritage and cultural viability. Removal of Native American populations in the region in the 18th century has dissociated the original inhabitants from their traditional lands.

Status:
No ethnographic overview and assessment documentation has been prepared by or for the national historical park. None are currently proposed.

CULTURAL AFFILIATION STUDY

Using anthropological, archeological, ethnohistoric, historic, and other evidence, this study satisfies the need to identify cultural ties among past and present groups that used and may still use or relate to national historical park natural and cultural resources, including museum objects.

Status:
No cultural affiliation study has been prepared by the national historical park. None is currently proposed.

CULTURAL LANDSCAPE REPORTS

A cultural landscape report provides a historical overview of a park or region and identifies and evaluates the cultural landscape within historical contexts. It identifies the need for further studies and makes recommendations for resource management and interpretation.

Status: The following studies are needed:
Cultural Landscape Report for Schoolhouse Ridge north
Cultural Landscape Report for Camp Hill
Cultural Landscape Report for Murphy Farm
Cultural Landscape Report for Bolivar Heights
Cultural Landscape Report for the Armory grounds

CULTURAL RESOURCES BASE MAP

A base map (or maps) depicts all known historic sites and structures, cultural landscapes, long-distance trails and roads, and archeological and ethnographic resources. Documented troop movements may be included.

Status:
The List of Classified Structures has been put into a Geographic Information System (GIS) format. All other surveyed and identified cultural resources are mapped within individual reports and studies. This latter information has yet to be consolidated into the GIS system. The consolidation into one format has been proposed and is waiting funding.

UNESCO WORLD HERITAGE SITE DESIGNATION PROJECT

The designation of Harpers Ferry National Historical Park as a UNESCO World Heritage Site is highly appropriate. The national historical park contains a rich collection of nationally and internationally known resources that could qualify it for UNESCO World Heritage Site designation. The National Park Service has assembled and is reviewing materials that could eventually lead to such designation.

Status:
Underway and current.

NATIONAL PARK SERVICE-CORPS OF ENGINEERS STUDY OF FLOOD PROTECTION FOR THE LOWER TOWN

This study would bring together the expertise of two agencies to evaluate appropriate techniques for limiting the damage done by periodic floodwaters in the Lower Town. This would include measures currently in place and evaluation of more permanent solutions consistent with the preservation of the historic Lower Town.

Status:
Current, with future study needed.

RESOURCE STEWARDSHIP STRATEGY

This management plan will include exotics, pest control, deer management, fire management, native vegetation restoration, etc. in addition to management strategies for historic structures, cultural landscapes, and archeological resources.

Status:
To be developed.

ALTERNATIVES AND ACTIONS CONSIDERED BUT DISMISSED FROM DETAILED EVALUATION

During the planning process for Harpers Ferry National Historical Park, several actions were discussed during public meetings for alternative development that could have become part of one or another of the alternatives. These actions were dismissed for the following reasons.

The National Park Service operates the Harpers Ferry Interpretive Design Center in a modern structure on the campus of the former Storer College. During development of alternatives, a suggestion that the Interpretive Design Center be moved out of the national historical park was proposed. The modern structure would then either have been demolished to remove a nonhistoric structure from the landscape or become a combined visitor center/NPS headquarters/collections and storage facility. The concept was dismissed due to the expense of moving the design center and because the location was not conducive to use as a visitor facility. The structure itself is too large to function solely as NPS headquarters.

A suggestion was made during alternatives generation to reopen the Harpers Ferry Caverns, which was previously open to the public under private ownership. The idea was dismissed because the caverns have no historical connection to any of the Harpers Ferry themes, however, the public may be allowed access in the future under permit.

The former Jellystone campground on Schoolhouse Ridge was considered with the possibility of reopening it to the public. The idea was dismissed because of the cost to restore the campground and the operation of a campground at Harpers Ferry would compete with private campgrounds in the area.

A proposal to move all maintenance facilities from Camp Hill to Cavalier Heights was considered but rejected due to the costs and impacts to the viewshed.

The concept of making all national historical park trails accessible to bicycles was considered early in the planning process. Connection to regional bicycle trails was also considered. The idea was eventually determined to be inappropriate to the commemorative nature of the grounds upon which the siege of Harpers Ferry occurred. Bicyclists would still have the opportunity to use public roads and rights-of-way to access the national historical park.

TABLE 5. SUMMARY OF ALTERNATIVES

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
LOWER TOWN	**Cultural Resources**	• All buildings preserved & managed as NPS exhibits • Backyards remain open to public but unimproved • Archives and collections move to new regional curatorial storage facility	• Building exteriors would remain unchanged • Backyards could be modified to support interpretive stories • Archives and collections moved to new regional curatorial storage facility	• Buildings exteriors would remain unchanged • Backyards could be modified by lessee or to support interpretive stories • Archives and collections moved to new regional curatorial storage facility
	Natural Resources	• Managed as backdrop for views and cultural setting	• Managed to create more period authentic landscaping	• Managed as backdrop for views and cultural resources
	Interpretation	• Interpretation of the entire history of Harpers Ferry • 0ccasional guided tours/interpretive activities • Museum-like setting with occasional living history and costumed personnel • Interpretation conducted by National Park Service	• Restored to mid-1800s (prewar, prosperous appearance) • Numerous ranger led tours/activities • Create living period community using costumed personnel, period shops, period exhibits, exterior furnishings, and backyard vignettes • Many museum type exhibits moved to new visitor center • Interpretation conducted by National Park Service • Some interpretation and special demonstrations could be fee based	• Structures preserved in present restored condition • Numerous guided tours/activities • Reproduced period sounds, backyard vignettes & programs, costumed personnel • Museum exhibits removed to new visitor center • Interpretation to NPS standards but could be done by concessioners. • Some interpretation and special demonstrations would be fee based
	Visitor Experience	• Modern intrusions disrupt the historical setting • Visitors primarily experience site on foot • Greenspace available for "time out" or special events • Most of experience is self-guided	• Visitors are immersed in 19th century environment • Pedestrian-only environment on weekends/seasonally • "Time-out" areas provided • Most of experience is self-guided	• Visitors primarily experience site on foot • Greenspace available for "time out" or special events • Most of experience is self-guided with high quality portable audio tours available
	Transportation	• Bus system operates between Cavalier Heights and Lower Town • Streets remain open to all vehicles	• Bus system operates between Cavalier Heights and other areas of the national historical park ("petal system") • Work with town to restrict NPS and personal vehicles on Shenandoah St. during high visitation periods (daily/seasonally)	• Bus access to and from towns (Harpers Ferry and Bolivar) by visitors, staff and town patrons • Work with town on vehicle restrictions during high visitation periods
	Administrative/NPS Operations/General	• NPS offices and residences remain on upper floors • Main (Harpers Ferry History Association) bookstore remains in historic structure • Move information center to building 45 • Building exhibits (shops) are for display only; site continues to lack life and activity • No full-time ranger presence	• NPS offices, residences, or exhibits on upper floors • Smaller bookstore operation ((Harpers Ferry History Association) • Reduced/relocated satellite information center. • Use of artisans, crafters and period shops controlled by NPS; increased use of volunteers • Greater visibility of NPS staff	• Upper floors would be rented to small businesses • Small Harpers Ferry History Association satellite bookstore • Move information center out of Lower Town; install visitor information/safety kiosk • Period shops would be contracted; shops allowed to sell period goods; concessioner presence in stores • Maintain NPS presence

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
FEDERAL ARMORY	Cultural Resources	• Continued monitoring of archeological conditions • John Brown's Fort remains in its current location	• Study feasibility of moving John Brown's Fort back to original location	• John Brown's Fort remains in its current location
	Natural Resources	• Not applicable	• Not applicable	• Not applicable
	Interpretation	• Armory interpreted in machine shop, blacksmith shop and Master Armorer's house	• Armory interpreted through wayside exhibits	• Armory interpreted through wayside exhibits
	Visitor Experience	• Visitor access via current trails, • Not connected to trail system	• Visitor access includes development of trails • Connect to national historical park trail system • Provide conditions to bring people to the area with some limited archeological work and use area as interpretation. (clear trees, open vistas, manage vegetation)	• Visitor access includes development of trails, viewing platform • Connect to national historical park trail system
	Transportation	• Dual purpose parking for commuter and national historical park visitors (weekends only)	• Define traffic circulation (in and out of train station parking) • Railroad station as transportation link/portal • Excursion trains from DC via Amtrak or MARC	• Dual purpose parking for commuter and national historical park visitors • Excursion trains from DC via Amtrak or MARC
	Administrative/NPS Operations/General	• Area managed for archeological stabilization and preservation • Fee collections in drop safe (Train station) • Trail with steps to Armory grounds from John Browns monument	• Area maintained as an archeological preserve • Fee collections in drop safe or in train station ticket office • Possible access from river wall	• Area maintained as an archeological preserve • Fee collections in drop safe (Train station) • Possible access from river wall • HPT training center in power plant
VIRGINIUS & HALL'S ISLAND	Cultural Resources	• Managed for preservation of archeological resources • Some stabilization would continue	• Managed for preservation of archeological resources • Expose and/or "ghost-In" structures	• Managed for preservation of archeological resources • Expose and/or "ghost-In" structures
	Natural Resources	• Primarily natural setting maintained, wetland preserved	• Some natural resources manipulated for cultural purposes, wetland preserved	• Some natural resources manipulated for cultural purposes, wetland preserved
	Interpretation	• Existing interpretive signs could be supplemented by additional signs. • Interpretation of stabilized/exposed ruins with signs	• Story of battle between man and natural forces (nature reclaiming the land) • Hall's Island will be interpreted • Interpretation of stabilized/exposed ruins with signs	• Story of battle between man and natural forces (nature reclaiming the land) • Hall's Island interpreted • Interpretation of stabilized/exposed ruins with signs
	Visitor Experience	• Trails • Primarily self guided tours	• Primarily self-guided & occasional ranger-led tours	• Primarily self-guided & occasional ranger-led tours
	Transportation	• Bus access nearby		• Bus access adjacent to the old pulp mill
	Administrative/NPS Operations/General	• Managed for archeological preservation & natural qualities	• Managed as an archeological preserve & natural area	• Managed as an archeological preserve & natural area

Table 5. Summary of Alternatives

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
LOUDOUN HEIGHTS	**Cultural Resources**	• Minimal preservation treatment of cultural resources • No renovation of Sherwood house planned	• Stabilize and preserve Civil War era camps and fortifications • Remove nonhistoric Sherwood house and location developed as Civil War overlook with interpretation, parking and vista clearing	• Stabilize and preserve Civil War era camps and fortifications • Remove nonhistoric Sherwood house
	Natural Resources	• Actively managed to maintain natural resources	• Actively managed to maintain natural resources	• Actively managed to maintain natural resources • Encourage natural resources research activities by partners (agencies, universities, etc.)
	Interpretation	• No onsite interpretation occurs in Lower Town	• Interpretive signs and overlook developed	• Work with Appalachian Trail to provide interpretive/information signs and potential reroute to include new town overlook
	Visitor Experience.	• Recreational activities (hiking, fishing, observing nature etc.) • No restroom/drinking water • Opportunities for solitude	• Recreational activities (hiking, fishing, observing nature etc.). Additional hiking around new overlook • No restroom/drinking water • Becomes part of comprehensive battlefield tour • Opportunities for solitude	• Recreational activities (hiking, fishing, observing nature etc.) • No restroom/drinking water • Opportunities for solitude
	Transportation	• Formal parking for visitors not planned, Mostly pedestrian access	• No bus access, parking at former Sherwood House location • Work with States regarding issue of Highway 340 to minimize impact on park and public safety	• No bus access • Work with states regarding possibility of rerouting / realigning Highway 340 outside of national historical park
	Administrative/NPS Operations/General	• Managed and maintained to preserve viewshed and natural resources	• Manage for resource protection • Assess feasibility of burying or relocating power line	• Manage for resource protection • Assess feasibility of burying or relocating power line
MARYLAND HEIGHTS	**Cultural Resources**	• Minimal preservation of earthworks and fortifications • Historic roads continue to be used and maintained	• Stabilize and preserve earthworks and fortifications • Historic roads continue to be used and maintained	• Stabilize and preserve earthworks and fortifications • Historic roads continue to be used and maintained
	Natural Resources	• Limited modification for open vistas • Actively managed to maintain natural processes	• Restore historic military line of fire vistas for interpretive purposes • Actively managed to maintain natural processes • Study and conduct deer population control on Maryland Heights if feasible	• Provide vistas of town for interpretive purposes • Actively managed to maintain natural processes • Encourage resource dependent research activities by other agencies or university groups
	Interpretation	• Interpretive signs • Occasional guided interpretation	• Provide higher level of interpretation through waysides and site brochures • Occasional ranger-guided hikes	• Maintain current level of interpretation • Occasional ranger-guided hikes
	Visitor Experience	• Recreational activities; viewing historic sites, observing nature, hiking etc. • Opportunities for solitude • No restroom or drinking water	• Recreational activities; viewing historic sites, observing nature, hiking etc. • Opportunities for solitude • No restroom or drinking water • Part of comprehensive battlefield tour	• Recreational activities; viewing historic sites, observing nature, hiking etc. • Opportunities for solitude. • No restroom or drinking water
	Transportation	• Limited parking	• Maintain current parking levels	• Work with state/county to increase parking along Harpers Ferry Road
	Administrative/NPS Operations/General	• Maintained existing trails	• Maintain existing trails and evaluate need for new trails	• Existing trails upgraded and maintained

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
SHORT HILL	Cultural Resources	• Minimally protected	• Stabilize and preserve earthworks and structures	• Stabilize and preserve earthworks and structures
	Natural Resources	• Actively managed to maintain natural processes	• Actively managed to maintain natural processes	• Actively managed to maintain natural processes
	Interpretation	• No on-site interpretation	• No on-site interpretation	• Interpretive waysides
	Visitor Experience	• Hiking, observing nature, etc. • Opportunities for solitude	• Hiking, observing nature, etc. • No new trails constructed • Opportunities for solitude	• Hiking, observing nature, etc. • Spur river trail from Potoma Wayside to Short Hill developed with partners and landowners • Opportunities for solitude
	Transportation	• No vehicle access allowed	• No vehicle access allowed	• No vehicle access allowed
	Administrative/NPS Operations/General	• Managed for resource protection • Preserved as natural area, viewshed (backdrop for view from Jefferson Rock)	• Managed for resource protection • Preserved as natural area, viewshed (backdrop for view from Jefferson Rock)	• Managed for resource protection • Preserved as natural area, viewshed (backdrop for view from Jefferson Rock)
BOLIVAR HEIGHTS	Cultural Resources	• Maintained as a battlefield landscape • Resource actively managed	• Maintained as a battlefield landscape • Resource actively managed	• Maintained as a battlefield landscape • Resource actively managed
	Natural Resources	• Resource modified to maintain battlefield landscape	• Resource modified to maintain battlefield landscape	• Resource modified to maintain battlefield landscape
	Interpretation	• Occasional demonstration • Wayside interpretive signs	• Occasional demonstrations • Wayside interpretive signs	• Regularly scheduled fee-based living history program by partner entities • Wayside interpretive signs
	Visitor Experience	• Visitors primarily experience site on foot • No restrooms/drinking water • Limited ADA access	• Visitors primarily experience site on foot trails • Connect trail from Elk Run/Bolivar heights with Nash Farm and Lower Town • Restrooms /drinking water • Limited ADA access • Becomes part of comprehensive battlefield tour	• Visitors primarily experience site on foot trails • Connect trail from Elk Run with Nash Farm and Lower Town • Restrooms /drinking water • Limited ADA access
	Transportation	• Parking • Visitor reaches site by personal vehicle	• Enlarged parking • Visitors reach site by bus when in operation or by personal vehicle	• Parking • Stop on regular park bus route or by personal vehicle
	Administrative/NPS Operations/General	• Field managed to maintain cultural landscape	• Field managed to maintain cultural landscape	• Field managed to maintain cultural landscape • Develop a formal cooperative agricultural lease agreement

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
CAMP HILL	**Cultural Resources**	• Adaptively reused historic buildings (preserved on exterior) • Current level of administrative use of historic houses would continue but may be impacting structural integrity • Shipley school rehabilitated • Archives and collections move to new regional curatorial storage facility	• Interiors of historic houses would be adaptively reused — lower floors for interpretation, upper floors for NPS purposes or lease • Development and implementation of period lighting plan • Shipley School rehabilitated by a private/public partnership • Archives and collections move to new regional curatorial storage facility	• Structure exteriors would reflect college setting of Storer College period. • Interiors of historic houses would be adaptively reused as first floor interpretive space and second floor office space • Development and implementation of period lighting plan • Shipley School removed • Archives and collections move to new regional curatorial storage facility
	Natural Resources	• Continues to be modified to represent college campus atmosphere	• Modified to represent college campus landscape • Some historically important and period trees would be planted	• Modified to represent college campus landscape • Historically important and period trees would be planted
	Interpretation	• Most visitor knowledge derived from Lower Town exhibits • Interpretation is mainly of exterior of buildings through signs but with occasional public tours • Room in Mather Hall open to public • Building exterior interpretation would mainly be through signs	• Main interpretation focus is on Storer College history • Archives moved out of Lockwood House. Lockwood House 1st floor restored for increased interpretation • Room in Mather Hall open to public • Building exterior interpretation would mainly be through signs	• Main interpretation focus is on Storer College history • Archives moved out of Lockwood House. Lockwood House 1st floor restored for increased interpretation • Room in Mather Hall open to public • Building exterior interpretation would mainly be through signs
	Visitor Experience	• Mostly pedestrian experience	• Self-guided walking tour with occasional guided tours	• Self-guided walking tours with occasional guided tours
	Transportation	• Maintain existing parking levels, lack of parking for visitors & staff continues • No bus access from Lower Town or Cavalier Heights • No public facilities	• Visitor parking would be allowed when shuttle not operating • Visitors and NPS employees would use shuttle system to access Camp Hill • Bus shelter	• Business parking would be limited to existing spaces • Visitors would arrive on bus • Bus shelter
	Administrative/NPS Operations/General	• Presentation of all time periods reflect historic continuum • NPS headquarters offices remain in Brackett and Morrell and Lockwood. (overly confined quarters) • Managed as campus environment • Maintenance yard on Storer College property remains • Move Appalachian Trail and Potomac Heritage National Scenic Trail offices into Cook Hall	• Structures reflect 1867 – 1955 period • Brackett and Morrell houses rehabilitated for park offices. Archives moved out of Lockwood into new facility. Upper floors of Lockwood rehabilitated for office space. • Maintain campus environment but not a return to period landscapes • Move Protection Division to Grandview School • Maintenance facility would remain in its current location. Satellite maintenance facilities in outlying locations • Move Potomac National Scenic Heritage Trail and Appalachian Trail offices to Camp Hill.	• Headquarters would be consolidated in a new building (location not yet determined); Brackett and Morrell and Lockwood rehabilitated for exhibit space. • Managed as a college campus atmosphere • Move Protection Division to Grandview school • Restore former maintenance site for a public park with parking; maintenance moved into rented space outside park

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
NASH FARM/ POTOMAC TERRACE	**Cultural Resources**	• Dairy Farm landscape maintained • Stabilize and preserve Nash Farm structures • Grandview School adaptively reused	• Maintain exteriors as dairy farm for original appearance • Adaptive reuse of interiors at Nash Farm • Grandview School adaptively reused for Protection Division offices	• Maintain exteriors as dairy farm for original appearance • Adaptive reuse of interiors at Nash Farm • Grandview School adaptively reused for Protection Division offices
	Natural Resources	• Existing natural areas would be maintained • Field/ meadow mowed • Natural conditions maintained in undeveloped areas	• Existing natural areas would be maintained • Field/meadow is maintained • Natural conditions maintained in undeveloped areas	• Existing natural areas would be maintained • Field/meadow maintained by institute personnel • Natural conditions maintained in undeveloped areas
	Interpretation	• No onsite interpretation at Nash Farm • Not interpreted	• Interpretation done though environmental education programs at Nash Farm • Exterior wayside panel at Grandview for interpretation as segregated school	• Interpretation done though environmental education programs at Nash Farm • Exterior wayside panel for interpretation as segregated school
	Visitor Experience	• General public visitation not encouraged	• Trail connections to Lower Town • Opportunities to experience formal and informal education activities • General visitation not encouraged	• Trail connections to Lower Town • Experience formal education activities • General visitation not encouraged
	Transportation	• Nash Farm "pull-off" for NPS vehicles • Grandview school accessed by personal vehicle or walking	• Unpaved parking provided at Nash Farm • Access via private vehicles or by round-the-park trail	• Unpaved parking provided at Nash Farm • Access via private vehicle
	Administrative/NPS Operations/General	• Maintained for preservation of existing cultural resources and historic landscape • Grandview School used for NPS management functions • Majority of terrace managed for natural resources	• Mid-20th century farmscape • Environmental education center and outdoor laboratory operated by NPS or affiliated organization • Majority of terrace managed for natural resources	• Mid-20th century farmscape • Independent educational institute operated by outside entity • Majority of terrace managed for natural resources
CAVALIER HEIGHTS	**Cultural Resources**	• N/A	• N/A	• N/A
	Natural Resources	• Heavily modified as modern landscape using native vegetation	• Heavily modified for visitor and NPS use • Modern landscape but unobtrusive	• Portions heavily modified for visitor use • Modern landscape but unobtrusive
	Interpretation	• Continued low level of interpretation • Main orientation center • Limited interpretive programs	• High level of interpretation • Main orientation center • Expanded interpretation	• Primary location for national historical park interpretation • Central location for regional visitor orientation
	Visitor Experience	• Trail connection to national historical park trail system (lower town, Murphy Farm) • Occasional special events • Public restrooms and drinking water • Orientation location	• Trail connection to national historical park trail system (Lower Town, Murphy Farm) • Occasional special events • Public restrooms and drinking water • Main orientation and interpretation location	• Trail connection to national historical park trail system (lower town, Murphy Farm) • Occasional special events • Public restrooms and drinking water • Main orientation location
	Transportation	• Primary access to the national historical park bus system • Bus maintenance facility	• Primary national historical park bus system access	• Primary national historical park bus system access.

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
	Administrative/NPS Operations/General	• Continues to be main national historical park entrance with bookstore outlet, information desk and fee collection booth and picnic area • Primary entrance to national historical park • Emergency cache/bone yard • Grassy areas for special events • Secondary book store location	• Construction of multipurpose visitor center/entrance complex with theater, fee collection and some offices, orientation, exhibits, picnic area • Primary entrance to national historical park • Grassy areas for special events • Negotiate for volunteer camping space outside national historical park • Primary bookstore location	• Joint Entrance Complex (NPS/State Tourism) with theater, fee collection and some offices orientation, exhibits, picnic area • Primary entrance to national historical park • Grassy areas for special events • Negotiate for volunteer camping space outside national historical park • Main bookstore location
SCHOOL OUSE RIDGE JACKSON'S LEFT/ RIGHT FLANK	**Cultural Resources**	• Maintained as battlefield landscape	• Managed as battlefield landscape • Remove nonhistoric houses and structures • Restore landscape by removing former private campground • Historic structures would be evaluated in connection with restoration of cultural landscape	• Managed as battlefield landscape • Remove nonhistoric houses and structures • Restore landscape by removing former private campground • Historic structures would be evaluated in connection with restoration of cultural landscape
	Natural Resources	• Maintained to represent a battlefield landscape in some areas • Some areas left natural	• Natural resources modified in some areas to present historic landscape • Some areas left natural • Close Harpers Ferry Caverns and John Brown Cave and remove man-made intrusions. May be open by permit only. • Return former Jellystone campground site to natural conditions	• Natural resources modified in some areas to present an historic landscape • Some areas left natural • Harpers Ferry Caverns for access by permit only. Remove man made intrusions • Remove former Jellystone campground site and return to natural conditions
	Interpretation	• No on-site interpretation	• On-site interpretation of military focus, part of comprehensive Civil War tour • Historic demonstration area	• Educational activities conducted by staff or volunteers Concessioner could conduct interpretive programs • Historic demonstration area
	Visitor Experience	• Primarily self-directed walking experience	• Self guided walking tours • Limited primitive group camping	• Self guided walking tours • Limited primitive group camping
	Transportation	• No vehicle access, service use only • Access via Trails	• Develop bus access with turnaround • Work with state to tunnel under route 340 at former Bakerton/Bloomery road for pedestrian access • Create parking on edges	• No bus access • Work with state to tunnel under route 340 at former Bakerton/Bloomery road for pedestrian access • Create edge parking
	Administrative/NPS Operations/General	• Managed as cultural landscape through agricultural leases • No visitor facilities	• Maintained to 1862 historic landscape through agricultural leases • Primitive "Historic Camp" for groups • Develop satellite maintenance location • Develop interpretive/hiking trails on existing roads	• Historic landscape maintained through agricultural/livestock leases • Primitive "Historic Camp" for groups • Develop interpretation/hiking trails

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
POTOMAC FRONTAGE	Cultural Resources	• Conditions of canal, dam, associated structures and power station monitored and preventive actions to prevent loss are carried out	• Restore landscape by stabilizing canal walls and headgate structure for rewatering of canal • Power plant rehabbed for interpretive use	• Stabilize canal walls and headgate structure (no rewatering)
	Natural Resources	• Vegetation continues to reclaim site and revert to natural conditions • Natural processes allowed to continue	• Manage wetland/aquatic environment in rewatered Canal (beneficial and adverse) • Manage natural resources for cultural landscape	• Vegetation managed to protect cultural landscape • Natural resources protected
	Interpretation	• Occasional ranger led tours	• Interpret dam, headgates and canal • Power plant building could house exhibits • Turbine in power plant restored for interpretive demonstration • Occasional ranger led tours	• Interpret dam, headgates and canal • Use of power plant by HPTC for training purposes • Occasional ranger led tours
	Visitor Experience	• Fishing, observing nature, hiking • Self-directed tours	• Fishing, observing nature, hiking • Self-directed tours and occasional ranger led tours	• Fishing, observing nature, hiking • Self-directed tours and occasional ranger led tours
	Transportation	• Access by personal vehicle or hiking	• Access by personal vehicle or hiking	• Access by personal vehicle or hiking
	Administrative/NPS Operations/General	• Managed for cultural resources	• Managed for cultural and natural resources	• Managed for cultural and natural resources
SHENANDOAH CITY/ BULL FALLS	Cultural Resources	• Cultural resources to be identified and evaluated	• Cultural resources to be identified and evaluated	• Cultural resources to be identified and evaluated
	Natural Resources	• Preserve viewshed from river and maintain natural conditions	• Preserve viewshed from river, maintain natural conditions	• Preserve viewshed from river, maintain natural conditions
	Interpretation	• No onsite interpretation	• No onsite interpretation	• No onsite interpretation
	Visitor Experience	• Visitation not encouraged, • Fishing	• Visitation not encouraged • Fishing	• Visitation not encouraged • Fishing
	Transportation	• No access	• No access	• No access
	Administrative/NPS Operations/General	• Not actively managed	• Managed for natural resources and preservation of cultural resources	• Managed for natural resources and preservation of cultural resources
MURPHY FARM	Cultural Resources	• Stabilize and preserve or adaptively reuse Chambers/Murphy farmhouse	• Evaluate Chambers/Murphy house for adaptive reuse for park purposes • Stabilize and preserve John Browns Fort foundation • Stabilize and preserve Civil War earthworks	Farmhouse used for interpretation or historic lease (B&B) • Stabilize and preserve John Browns Fort foundation • Stabilized and preserved earthworks
	Natural Resources	• Nonagricultural lands managed for natural processes	• Nonagricultural lands managed for natural processes	• Nonagricultural lands managed for natural processes
	Interpretation	• Interpret John Brown's Fort foundation • Interpretation of Civil War earthworks • Occasional interpretation tours	• Manage to reflect 1862-64 and 1894-1906 periods • Occasional interpretive tours • Historic house could be used for multiple NPS purposes.	• Occasional interpretive tours
	Visitor experience	• Self guided interpretation • No restrooms or drinking water available • Use existing road as hiking trail • Contemplative atmosphere, hiking, scenic overlook	• Self guided visit with occasional ranger led activities • Restrooms and drinking water • Contemplative atmosphere, hiking, scenic overlook	• Self guided visit with occasional activities led by rangers or concessioner • Restrooms and drinking water • Establish minimal trail to earthworks and primitive viewpoint • Contemplative atmosphere, hiking, scenic overlook

		ALTERNATIVE 1, NO ACTION	ALTERNATIVE 2, PREFERRED	ALTERNATIVE 3
	Transportation	• No public vehicle access • Access by hiking trail	• On bus route • Access by hiking trail and pedestrian bridge • Small parking area with bus turn-around	• No bus access • Access by hiking trail and pedestrian bridge • Parking
	Administrative/NPS Operations/General	• Agricultural lease used to maintain cultural landscape	• Agricultural lease used to maintain cultural landscape	• Agricultural lease used to maintain cultural landscape • Limited development of overlook
POTOMA WAYSIDE	**Cultural Resources**	• None known	• None known	• None known
	Natural Resources	• Modified to allow recreational experience • Nonrecreational areas managed for natural resource preservation	• Modified to allow recreational access • Nonrecreational areas managed for natural resource preservation	• Modified to allow recreational access • Nonrecreational areas managed for natural resource preservation
	Interpretation	• Primarily by river recreation companies	• Primarily by river recreation companies	• Primarily by river recreation companies
	Visitor Experience	• Temporary toilets; no drinking water • Primitive trails maintained	• Upgraded restroom facilities may be provided by NPS or private company • Hardened access to river for take-out	• Upgraded restroom facilities may be provided by NPS or partner • Use partnership to improve trail
	Transportation	• Limited parking	• Evaluate parking/vehicle access with partners	• Evaluate parking/vehicle access with partners
	Administrative/NPS Operations/General	• Maintained for access to river • Minimal visitor facilities • NPS provides debris removal	• Managed primarily for access to/from river • Minimal visitor facilities • Partnership with others for debris removal	• Managed primarily for access to/from river • Improved visitor facilities • Partnership with others for debris removal • Work with landowners on a trail to Short Hill
COLLECTIONS		• Archives and collections move to new regional curatorial storage facility	• Archives and collections move to new regional curatorial storage facility	• Archives and collections move to new regional curatorial storage facility
OTHER ISSUES		• Upgrading of directional and interpretive information directed at Appalachian Trail users	• Work with outside entities to create recreational area on water • Intergovernmental maintenance facility outside national historical park boundaries • Limited public/private partnership Government controls outcome and mission • Must still get good "free" experience • Contracted audio tour (walking/auto) • Collect fair market value for agricultural leases • One visitor contact point • Entrance complex • Development of a park foundation to maintain facilities • Traveling collections brought to national historical park • Maintain core exhibits throughout national historical park	• Evaluate fishing access, canoeing access, open spaces • HFC "softened" to be less angular/intrusive • Generation of DCP type solutions for Potoma Wayside

TABLE 6. SUMMARY OF IMPACTS

There would be no impairment of key resources or values associated with any of the impacts presented in the alternatives.

	ALTERNATIVE 1 — NO ACTION	ALTERNATIVE 2 — PREFERRED	ALTERNATIVE 3
CULTURAL RESOURCES			
Historic Structures	Stabilizing and preserving historic structures would considerably reduce the loss of historic fabric over time. The result would be beneficial.	The impacts of alternative 2 on historic structures would be generally positive and minimally adverse	The impacts of alternative 3 on historic structures would be generally positive.
Archeological Resources	Any discussion of possible impacts on archeological resources is theoretical until such resources are actually found. Archeological testing and/or excavation before any ground disturbance in the park could result in positive and negative impacts. Should archeological testing identify resources of significance, mitigation activities could be implemented or the project could be redesigned to lessen or do away with any impact. There would be an effect, but that effect would not be adverse because the site would remain essentially intact. However, if the project cannot be redesigned to lessen any effect on archeological resources and removal of the site is required, the impact on the site would be adverse despite the mitigating factors of data recovery/research and possible interpretation. Once excavated the context of the site would be lost.	Alternative 2 would require archeological investigations associated with stabilization/ preservation of foundations or structures within the national historical park. Investigations would be coordinated with the West Virginia state historic preservation officer under the requirement of Section 106 of the National Historic Preservation Act of 1966, as amended. The actions associated with this alternative could have adverse impacts on archeological resources.	Archeological investigations associated with stabilization/ preservation of foundations or structures within the national historical park would be required. Investigations would be coordinated with the West Virginia state historic preservation office under the requirement of Section 106 of the National Historic Preservation Act of 1966, as amended. The actions associated with this alternative could have adverse impacts on archeological resources.
Cultural Landscapes	The potential impacts associated with implementing alternative 1 would result in both no adverse effects and adverse effects on the national historical park's cultural landscapes.	The impacts of alternative 2 would generally be not adverse.	The impacts of alternative 3 would generally be not adverse.

	ALTERNATIVE 1 — NO ACTION	ALTERNATIVE 2 — PREFERRED	ALTERNATIVE 3
NATURAL RESOURCES			
Water Resources	This alternative would have no new effects.	Alternative 2 would result in long-term, minor beneficial impacts on wetlands and a long-term negligible adverse impact to water resources in the national historical park.	This alternative would result in long-term, minor beneficial impacts to wetlands and water resources in the national historical park.
Floodplains	This alternative would have no additional effects on floodplains.	This alternative would cause long-term, negligible adverse impacts on floodplains.	There would be no effect on floodplains.
Soils	Implementing the no-action alternative would have long-term negligible adverse impacts on soil resources.	The impacts of implementing the preferred alternative would be short and long term, minor, and adverse.	The impacts of implementing this alternative would be long term, minor, and adverse.
Cave and Karst Resources	This alternative would create no additional impacts on this resource.	Alternative 2 would result in long-term, minor to moderate beneficial impacts on cave resources.	Alternative 3 would result in long-term minor beneficial impacts and long-term negligible adverse impacts.
Vegetative Communities	Implementing the no-action alternative would have a long-term negligible adverse impact on native vegetative communities.	Alternative 2 would result in long-term minor adverse impacts on vegetative communities.	Alternative 3 would result in long-term minor adverse impacts on vegetative communities.
Fish and Wildlife	Implementation of this alternative would have no effect.	Implementing this alternative would result in long-term negligible adverse impacts and long-term minor beneficial impacts.	This alternative would result in long-term negligible adverse impacts and long-term minor beneficial impacts.
Special Status Species	Implementing the no-action alternative would have no effect on the Indiana bat, bald eagle or species of concern.	Implementing alternative 2 would have no effect on bald eagles, bats, or federal species of concern. There would be long-term, minor adverse impacts on state listed plants in the Armory Canal.	There would be no effect on Indiana bats, bald eagles, or federal species of concern as a result of this alternative.
Soundscapes	Alternative 1 would have no new effect on natural soundscapes in the national historical park.	Alternative 2 would result in short-term minor adverse impacts, long-term moderate beneficial impacts, and long-term negligible adverse impacts on soundscapes in the national historical park.	Alternative 3 would result in short-term minor to moderate adverse impacts, long-term moderate beneficial impacts, and long-term negligible adverse impacts to soundscapes in the national historical park.
Lightscapes	This alternative would have a long-term, minor beneficial impact on lightscapes.	This alternative would have a long-term, minor beneficial impact on lightscapes.	This alternative would have a long-term, minor beneficial impact on lightscapes.

Table 6. Summary of Impacts

	ALTERNATIVE 1 — NO ACTION	ALTERNATIVE 2 — PREFERRED	ALTERNATIVE 3
VISITOR EXPERIENCE			
	While implementing the no-action alternative would not create any new impacts on visitor use or experience, it would result in the continuation of actions and conditions that give rise to long-term minor adverse impacts on visitor experience.	Implementing alternative 2 would result in long-term minor to moderate beneficial impacts on visitor experience.	Implementing alternative 3 would result in long-term minor to moderate beneficial impacts on visitor experience.
SOCIOECONOMIC ENVIRONMENT			
	Implementing alternative 1 would have a long-term, minor adverse impact on the gateway communities and a long-term, negligible adverse impact on the regional economy.	Implementing alternative 2 would have a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy.	Implementing alternative 3 would have a long-term moderate beneficial effect on the economy of the gateway communities and a long-term, minor beneficial effect on the regional economy.
NPS OPERATIONS			
	The no-action alternative would result in long-term minor adverse impacts on staffing, maintenance, and law enforcement. There would be no change in emergency response times.	The preferred alternative would have short-term, minor adverse impacts and long-term, minor to moderate beneficial impacts on NPS operations.	Alternative 3 would have short-term, minor adverse impacts and long-term, minor beneficial impacts on NPS operations.

TABLE 7. SUMMARY OF COSTS BY ALTERNATIVE

The following applies to costs presented through this general management plan:

- The costs are presented as estimates and allow for flexibility in application of components.
- These costs are not appropriate for budgeting purposes.
- The costs presented have been developed using industry standards to the extent available.
- Actual costs will be determined at a later date, considering the design of facilities, identification of detailed resource protection needs, and changing visitor expectations.
- Approval of the general management plan does not guarantee funding or staffing for proposed actions will be available.
- Full implementation of the general management plan may be many years in the future.
- All estimates are in 2007 dollars and rounded up to the nearest $100,000.

	Alternative 1	Alternative 2 (NPS Preferred)	Alternative 3
Annual Operating Costs (ONPS)[1]	**$6,400,000**	**$6,600,000**	**$6,300,000**
Staffing - FTE[2]	92	95	92
Total One-time Costs		$17,900,000	$24,200,000
Facility and non-facility cost	0	$17,700,000	$23,600,000
Other[3]	0	$200,000	$200,000
Removal of buildings	0	0	$400,000

(1) Annual operating costs are the total annual costs for maintenance and operations associated with each alternative, including: maintenance, utilities, supplies, staff salaries and benefits, and other materials.

(2) Total full-time equivalents (FTEs) are the number of staff required to maintain the assets of the national historical park at a good level, provide acceptable visitor services, and protect resources. Park managers would explore opportunities to work with partners, volunteers, and other federal agencies to effectively and efficiently manage the national historical park. FTE salaries and benefits are included in the annual operating costs. T to facilitate comparison among the alternatives, the staffing numbers include the conversion of subject to furlough employees and temporary employees.

(3) Other costs include resource studies or inventories, and archeological research.

CHAPTER 3
AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the existing environment of Harpers Ferry National Historical Park and the surrounding region. It focuses on national historical park resources, uses, facilities, and socioeconomic characteristics that have the potential to be affected if any of the alternatives were implemented.

In addition to the information provided in this chapter, information on the natural, cultural, and human environment of Harpers Ferry can be found on the national historical park's web page (http://www. nps.gov/hafe) and bibliography (http:// www1.nature.nps. gov/nrbib/index.htm).

LOCATION AND SETTING

Throughout its history, Harpers Ferry has been the backdrop for remarkable and unparalleled events. Here, in one setting, several themes in the American story converge: Native Americans, industry and transportation, the African American experience, John Brown, the Civil War, and the natural environment. Harpers Ferry became part of the national park system in 1944. It was named after a river ferry service operated by Robert Harper and his family from the mid-1700s until the early 1800s.

Harpers Ferry National Historical Park is situated along a deep gap in the northern section of the Blue Ridge Mountains at the confluence of the Potomac and Shenandoah rivers. Most of the national historical park lies in the northeast corner of West Virginia, while the Short Hill section of the national historical park is in Virginia, and Maryland Heights is across the Potomac River in Maryland.

The national historical park ranges in elevation from 275 feet to 1,300 feet above sea level. The character of the land varies from river frontage flats to lofty forested ridges.

The district within the corporate limits of Harpers Ferry, West Virginia, is a narrow strip on the triangular section of land in the confluence between the Potomac and Shenandoah rivers. This district, divided into two areas known as Lower Town and Camp Hill, rises from the river level of 275 feet to approximately 500 feet above sea level. The lower part of the district is subject to flooding.

The Bolivar Heights district, on the same triangular section of land but west of Harpers Ferry, ranges from 500 to 600 feet above sea level.

The Loudoun Heights district, across the Shenandoah River from the town of Harpers Ferry, ranges from the river level of approximately 275 feet to 1,200 feet above sea level.

CLIMATE

The national historical park is in the transitional zone between the more maritime climate of the Atlantic Slope and the drier areas of the Allegheny Mountains. The climate experienced here is characterized by large seasonal temperature differences but is somewhat tempered by the nearby marine influence. High temperatures reach over 90 degrees Fahrenheit in July and August, whereas lows can fall below 15 degrees (F) in January. On average, annual high and low temperatures here are 63 and 40 degrees (F) respectively. The average annual precipitation from rain, Atlantic coastal storms, and snow combine to equal 38 inches in the national historical park. Most precipitation is from rain in the summer.

CULTURAL RESOURCES

OVERVIEW

Prehistoric Background

Paleo-Indian Period (10,000–8000 BC). The earliest generally agreed upon culture period identified in North America is known as Paleo-Indian. There is evidence of human occupation of the Middle Atlantic area from at least 10,000 BC. Current theories suggest that this occurred after the migration of Asiatic people across the Bering Strait and the gradual warming of the northern part of the continent. No evidence of Paleo-Indian occupation has been identified in Harpers Ferry at this time.

Archaic Period (8,000 BC to 1200 BC). The major difference between Archaic and Paleo-Indian cultures is an apparent change in subsistence strategies and group sizes. Early Archaic peoples successfully adapted to the changing environment by modifying or developing the tools needed to exploit newly available resources. Group size seems to have remained small and people appear to have continued to follow a nomadic lifestyle.

Woodland Period (1000 BC to AD 1700). Pottery, suggesting an increased reliance on plant resources, first appears in the regional archaeological record around 1200 BC and is widely considered the hallmark trait which separates the Woodland from the Archaic Period.

During this period there was an increase in production specialization and social status differentiation and a more varied and elaborate material culture developed. There are indications of the beginning of horticultural practices and an increasingly sedentary lifestyle during the Woodland. Archeological sites associated with this period are often located on high banks directly overlooking major rivers.

Late Prehistoric (AD 1100 to early contact — circa 1700). This last period of time before contact with European cultures is characterized by the intense cultivation, stockaded villages, and relatively dense populations. Although there is evidence scattered throughout West Virginia of prehistoric activities representative of all the described culture periods in the Inner Piedmont Region. The earliest European settlers did not find any large or permanent Indian settlements.

Indian groups living in the region before the early 1700s were probably forced out by a combination of factors such as diseases introduced by Europeans and competition between groups for a decreasing amount of available natural resources. By the time European settlers arrived in the Harpers Ferry area in the late 1600s, Iroquois peoples from New York and Pennsylvania had pushed out groups of Shawnee, Delaware, and Mingo who inhabited the area.

With the exception of an Indian named "Gutterman Tom," who operated a ferry with Peter Stephens, there is no mention in the records of Harpers Ferry National Historical Park of aboriginal occupation of the Lower Town area when Robert Harper arrived in 1747.

Several prehistoric lithic scatters have been documented at Harpers Ferry National Historical Park on Cavalier Heights and Schoolhouse Ridge. A more substantial prehistoric component was documented in Lower Town, during an archeological investigation of backyards. This excavation provided evidence of Terminal Archaic/Early Woodland, Early Woodland and Late Woodland occupations. Additionally, current excavations at the Federal Armory site uncovered a prehistoric site along the banks of the Potomac.

Early European Settlement

The gap in the mountains created by the rivers attracted European settlers. The land was part of an immense colonial land grant of approximately 6 million acres. This land, granted by King Charles II was known as the "Northern Neck Proprietary." Patents for land rights were granted to noblemen. At this time the land remained as unexplored and unsettled territory.

The rivers provided an early avenue for travel in an area where roads were little more than trails. By 1701 the first small settlement at the junction of the two rivers was created by a Swiss prospector named Louis Michel who was making surveys of mineral resources. Peter Stevens, a Pennsylvania Dutchman, established a ferry crossing on the Potomac River near its confluence with the Shenandoah River in 1733. The ferry that Stevens ran, in an area known as "The Hole," eased travel through the Blue Ridge mountain region. A millwright from Pennsylvania named Robert Harper recognized the commercial and industrial potential of the area and bought Stevens out in 1747. Harper, for whom the town is named, later purchased an additional 125 acres from Lord Fairfax at the confluence of the Potomac and Shenandoah rivers. In addition to operating the ferry, he also built and operated a gristmill and a sawmill and started construction of a tavern before his death in 1782.

The waterpower of Potomac and Shenandoah rivers soon drew settlers. Traveling to the area as a young land surveyor, George Washington was already familiar with the region and appreciated both its abundant water power and potential as a transportation hub. After becoming President, Washington used his familiarity with Harpers Ferry to champion the site for a new federal armory and arsenal in 1794.

In addition to the water power provided by the rivers, the surrounding mountains provided wood for the production of gun stocks, charcoal to fire the forges, and iron ore for manufacturing gun barrels. By 1801 after purchasing the necessary lands from Harper the armory was constructed as a series of structures along the Potomac River. During the early years of operation, the production of arms was modest due to deficient waterpower and charges of mismanagement.

With an expansion of the armory in 1808, the growth of the town began in earnest. By 1810 the population had increased to about 700. Housing and associated commercial establishments were constructed throughout the Lower Town area as well as on the hillsides. During this period residents carved 44 steps into the rock outcrop that formed the foundation for the Harper House Terrace. These steps formed a link between Lower Town and the upper elevations. Circulation and land use patterns developed as a response to the topography of the area, which influenced the community's development. Many of the buildings in town were constructed with the local phylite know as Harpers Shale. This stone was readily available and an obvious choice for construction. The stone contributed to the scenic nature of the town.

Industrial Development

The armory, or musket factory, was the structural and economic core of Lower Town between 1800 and 1860. To a great degree, it also established the overall landscape character of Lower Town as is reflected in the layout of roads and pedestrian paths, the platting of open lands and the style, materials, and technology used to construct buildings, water works, dams, culverts, canals, and structural walls. By 1821, there were 20 workshops, 2 arsenal buildings, and 86 dwellings for employees. At this time the armory employed 271 workers. Between 1801 and the outbreak of the Civil War in 1861, the armory produced more than 600,000 muskets, rifles, and pistols.

Unfortunately, the fluctuating river levels made reliable transportation of goods into and out of Harpers Ferry difficult. Demand for the creation of facilities to deal with the problem grew. By 1824 a sturdy timber bridge was built at the approximate location of the original ferry, and by 1830 the construction of a turnpike into Lower Town began to provide reliable access for the town and armory. In 1806 a natural channel was engineered into a canal to circumvent the rapids in the Shenandoah. This canal was modified into a network of channels and millraces in 1823–24 to furnish water power for industries on Virginius and Hall's islands. As a result of improved access, a growing community, and an abundant waterpower-based industry, Harpers Ferry began to flourish. Indeed, in the 40 or so years preceding the Civil War, Virginius Island boasted a number of private industries, including a sawmill, flour mill, machine shop, two cotton mills, tannery, iron foundry, and a carriage manufacturing shop.

Prior to 1821, the inventor John H. Hall patented a breach-loading, interchangeable flintlock rifle and was awarded a contract to manufacture 1,000 rifles at the U.S. Armory at Harpers Ferry. As a result, between 1821 and 1840, he helped lead the change from craft-based production to manufacture by machine. This means of production revolutionized manufacture, and Hall's techniques spread to other places and industries.

By 1833 the Chesapeake and Ohio Canal had reached Harpers Ferry as it threaded its way west to Cumberland Maryland. Meanwhile, track for the Baltimore and Ohio (B&O) Railroad, reached the Maryland shore opposite Harpers Ferry in 1834. By 1837 a railroad bridge spanned the Potomac River. The railroad quickly proved its worth and a second railroad, the Winchester and Potomac, opened its line from Winchester, Virginia, to Harpers Ferry in 1836. The convergence here of the Baltimore & Ohio Railroad, the Winchester & Potomac Railroad, as well as the Chesapeake & Ohio Canal in the mid-1830s inaugurated an era of economic and industrial growth that lasted until the Civil War. By mid-century the population of Harpers Ferry and the neighboring town of Bolivar reached 4,300.

After the Civil War it became increasingly obvious that increasing speed and larger railroad engines made realignment of the B & 0 line necessary. In 1892-94 the line was moved from the elevated trestle along the Potomac shoreline to an area that ran parallel to Potomac Street, a few hundred feet south of the existing line. The realignment required elevating the new line as well. The new line was elevated by creating a berm with the stone debris from construction of the railroad tunnel through Maryland Heights. This new alignment was placed over the now defunct armory grounds, including the original location of the engine house (John Brown's Fort).

John Brown's Raid and the Civil War

John Brown was a champion of the anti-slavery cause in the Kansas Territory where the establishment of slavery in the American Territories was focused. John Brown believed he could free the slaves. He selected Harpers Ferry as his starting point because of weapons stored at the U. S. Arsenal and access to slaves in the south whom he planned to arm. He was determined to seize the 100,000 weapons at the arsenal and to use the Blue Ridge Mountains for guerrilla warfare.

Brown, with his three sons, 18 men, and a wagon load of supplies, launched his raid on Sunday evening, October 16, 1859. His 21-man "army of liberation" began their attack by seizing the watchmen at the bridge over the Potomac. They then captured the armory, took the watchman hostage, cut telegraph wires, and dispatched parties to bring in slaves and hostages.

In the meantime, shooting began between Brown's men and some townspeople. Soon the militia arrived and by nightfall the survivors of Brown's party had taken refuge in the armory's fire engine house. The next morning, US Marines used a heavy ladder to batter down the door and enter the building, capturing John Brown.

Brought to trial in nearby Charles Town, jurors found Brown guilty of treason, against Virginia, of conspiring with slaves to rebel, and of murder. He was hanged on December 2, 1859. John Brown's short-lived raid failed, but his trial and execution focused the nation's attention on the moral issue of slavery and provided a catalyst for the Civil War.

The Civil War had a profound and disastrous effect on Harpers Ferry, It left a path of destruction that wrecked the town's economy and forced many residents to depart forever. The town's strategic location on the B&O Railroad at the northern end of the Shenandoah Valley meant that Union and Confederate troops moved through Harpers Ferry frequently. The town changed hands eight times between 1861 and 1865.

On April 18, 1861, less than 24 hours after Virginia seceded from the Union, Federal soldiers set fire to the armory and arsenal to keep them out of the hands of Virginia secessionists. The arsenal and 15,000 weapons were destroyed. However, Confederates extinguished the flames at the Armory and the weapons-making equipment was shipped south. When the Confederates abandoned the town two months later, they burned most of the factory buildings and blew up the railroad bridge.

In February of 1862 Federal forces re-occupied Harpers Ferry and by March the bridge was rebuilt and the first train in nine months crossed into Harpers Ferry. Because their primary mission was to protect the railroad, the troops paid little attention to the town. Instead, the soldiers constructed earthworks across Camp Hill.

During the Confederacy's first invasion of the North, on September 15, 1862, Maj. Gen. Thomas J. "Stonewall" Jackson surrounded and captured the 12,693 men of the Union garrison stationed at Harpers Ferry. This was the largest surrender of Union forces throughout the course of the war. When the Federals returned to Harpers Ferry after the Battle of Antietam (Sharpsburg), they began transforming the surrounding heights into fortified encampments to protect both the town and the railroad.

The Confederates held Harpers Ferry for the last time during the course of Lt. General Jubal Early's campaign north from the Shenandoah Valley during which he had attempted to capture Washington D.C. in the summer of 1864. From August 1864 to February 1865, Union General Philip H. Sheridan used Harpers Ferry as his base of operations and destroyed Early's troops as well as conquering Confederate troops in the Shenandoah Valley. When the Civil War ended, the military departed. Harpers Ferry, dominated by military presence in the preceding years, became nearly a ghost town. Many of the industries, stores, and dwellings were destroyed or abandoned.

African American History

African Americans have been a part of the Harpers Ferry story since before the American Revolution. The first recorded arrival was a slave purchased by Robert Harper in the mid-1700s. By the time of John Brown's raid in 1859, about 10% of the town's residents were black. "Free" blacks often worked as laborers or teamsters, but some prospered as skilled masons, plasterers, butchers, and blacksmiths. During the Civil War, Harpers Ferry became one of many Union garrison towns where runaway slaves, or "contraband," sought refuge.

Following the Civil War, New England Freewill Baptist missionaries came to Harpers Ferry determined to help both the newly liberated slaves and free African Americans. To that end they acquired several vacant Armory buildings on Camp Hill including the Lockwood House from the Federal government, and in 1867 started Storer College. John Storer, for whom the college was named, was a successful Maine businessman who provided support in the form of $10,000 if the Freewill missionaries could raise a matching amount within a year. The necessary monies were obtained from the Freedman's Bureau and private sources. An integrated school designed primarily to educate former slaves, but open to students of all races and genders, was opened.

Frederick Douglass served as a trustee of the college and delivered a memorable oration on the subject of John Brown here in 1881. By the end of the 19th century, the promise of freedom and equality for blacks had been buried by Jim Crow laws and legal segregation. To combat these injustices, Dr. W.E.B. Du Bois and other leading African Americans created the Niagara Movement, the forerunner to the National Association for the Advancement of Colored People (NAACP). In 1906, the Niagara Movement held its second conference on the campus of Storer College. Ironically the success of organizations like the NAACP contributed to the college's decline. In 1954, legal segregation was finally ended by the landmark school desegregation decision handed down by the Supreme Court in *Brown v. The Board* of *Education*. A year later Storer College closed its doors.

Historical Relevance of Floods

Harpers Ferry was slow to recover from the Civil War. With abandonment by the federal government and the destruction of virtually all of the private industry, the town had to endure further hardship by the periodic inundation of flood waters. Although rebuilding occurred, floods were a recurring feature and a constant threat to the residents and industry of Harpers Ferry. Some of the floods were minor and relatively harmless. Others were catastrophic. Severe floods in 1870 and 1889 continued to thwart resident's efforts to recover from the war. In May of 1924 flood waters from both the Shenandoah and Potomac Rivers rose to 28 feet above flood stage inundating buildings with as much ten feet of water. Commerce on the C & 0 Canal across the Potomac River was halted and never resumed.

Twelve years later in March of 1936 the largest and most devastating floods on record hit Harpers Ferry. Reaching a record height of 36 feet above flood stage, both the Shenandoah and Potomac rivers raged through town, nearly reaching second-story balconies. The flood destroyed both the Bollman Bridge across the Potomac to Maryland and the Shenandoah Bridge to Virginia. Again in 1942 a flood hit the area even before repairs had been completed from the previous flood.

With the realignment of U.S. Route 340, and the construction of new highway bridges down river from Harpers Ferry, the town was no longer a stop along the highway but was bypassed, leaving only the railroads as a major point of entry to the community. The population continued to decline.

Though the town's economic viability slumped, its potential national significance was realized through official recognition as a national historic landmark under the Historic Sites Act of 1935. After much local organizing and the introduction of several bills to establish Harpers Ferry as a national historical park, the authorization was signed into law on June 30, 1944, by President Franklin D. Roosevelt.

NATIONAL REGISTER DESIGNATIONS

Harpers Ferry National Historical Park was administratively listed on the National Register of Historic Places October 15, 1966. The National Register of Historic Places is the nation's official list of cultural properties worthy of preservation. The national historical park's designation acknowledges its national significance.

A formal nomination, prepared to officially document the resources comprising the district, was approved in May of 1981. Since that time the national historical park has acquired additional properties, some of which had been previously listed in the national register. A multiple property documentation form was written to consolidate both existing and new information and to update the national historical park boundaries in December of 1999.

Additional documentation of individual properties has been prepared by NPS staff and certified by the West Virginia state historic preservation officer in support of the existing national register listing.

THE NATIONAL HISTORICAL PARK'S CULTURAL RESOURCES

The national historical park's cultural history is represented by cultural landscapes, historic structures, archeological resources, and museum collections.

Historic Structures

A historic structure is a constructed work consciously created to serve some human activity. Historic structures are usually immovable, although some have been relocated and others are mobile by design. They can include buildings, monuments, dams, millraces and canals; bridges, roads, railroad tracks and rolling stock; and fences. In some cases they may be standing ruins of all structural types.

When the National Park Service assumed jurisdiction of the site, on June 30, 1944, numerous buildings and structures were in poor condition and structurally unsound. In some cases the condition of the building ultimately required its removal. In the late 1950s the National Park Service undertook a long-term program of building stabilization, rehabilitation, and reconstruction.

The national historical park's List of Classified Structures (LCS) provides the primary reference of building types, significance, condition, and recommended treatments. The current LCS listing identifies 147 structures ranging from currently occupied historic and modern structures to Civil War earthworks. All but four structures contribute to the national historical park's National Register of Historic Places significance.

Lower Town. The core area of Lower Town is tightly packed and its configuration is heavily determined by the topography and the stone outcroppings underlying the town. Sixty-seven buildings and structures are listed on the national historical park's List of Classified Structures in Lower Town. Historically this area contained many of the residences and commercial establishments. Most of the standing historic structures are currently adaptively reused by the National Park Service. Generally, upper levels are used for administrative offices and employee residences, while lower floors are used for visitor services, and interpretation.

Structural features that remain in Lower Town include a variety of structural and ornamental walls. Virtually all of these walls are shale, many are dry-laid with bedrock foundations, and several are remnants associated with nonextant building sites and developed areas. There is also a major stone

wall supporting the railroad trestle between Market Street and the Point.

The adjacent hillside contains remnant walls and foundation ruins, including the structural ruins of the Episcopal Church, and the trail connecting Lower Town and Camp Hill. The area primarily functions as a buffer and boundary element defining the perimeter of the developed landscape and the transition between Lower Town and Camp Hill. Jefferson Rock is along the Appalachian National Scenic Trail that passes St. Peters Catholic Church between Camp Hill and Lower Town.

Bridge piers of the original B & 0 Railroad and the Shenandoah Bridge remain visible in the Potomac and Shenandoah rivers respectively at the Point. The modern CSX railroad line crosses the Potomac River and proceeds to the southwest, roughly paralleling the Shenandoah River through Virginius Island in the Hamilton Street area. The railroad trestle, over which the line passes, cuts through the site, creating two functionally distinct areas. The area between the trestle and the river contains remnants of retaining walls, building sites, and below-ground foundation ruins. Busy Shenandoah Street winds along the corridor between the railroad trestle and the base of Camp Hill, providing access for NPS buses and local traffic. The historic Shenandoah canal and additional foundations hug the cliff.

Arsenal Square at the base of Washington Street and at the eastern terminus of Shenandoah Street includes building foundations and ruins from the large and small arsenal, as well as contemporary structures, walls, paths, and interpretive waysides. Arsenal square is the current location of John Brown's Fort. The building has been moved and reconstructed several times since it served as the Federal Armory engine house and John Brown's refuge. The fort's current location is approximately 150 feet east of its original location.

Federal Armory. The Federal Armory is on the low lying land between the south bank of the Potomac River and the earthen embankment along Potomac Street. The site lies between the Potomac Hydroelectric Power Plant to the west and the remnants of the pontoon bridge to the east.

The remnant foundations of 18 armory buildings are in this area. A narrow millrace extending from the Armory canal along Potomac Street furnished water to turn the water wheels and turbines of the various Armory workshops. Also running parallel to the south bank of the Potomac River is the Armory River wall that historically supported the original wooden trestle used by the Baltimore & Ohio Railroad (B&0) line after it crossed the Potomac.

At the east end of the armory grounds near the Point, the railroad line enters Harpers Ferry. In the early 1890s the B&0 realigned the rail line by creating a 1,500 foot long earthen embankment parallel to the raised trestle. This embankment covers the millrace that extended east from the Armory canal and approximately a dozen armory building foundations, including the site of the Engine House (John Brown's Fort). Today a monument on the embankment shows the original location of the fort. Commemorative tablets placed near the monument in 1897 have been moved to The Point near the original limits of Arsenal Square. Because the embankment blocked drainage of water from downtown Harpers Ferry, especially during a flood, the B&0 constructed a drainage culvert, or vomitorium, near the east end of Shenandoah Street.

During a second realignment of the railroad in 1931, the B&O depot was moved several hundred yards west to provide continued passenger access. The B&0 train station is within the limits of the original Armory grounds. CSX retains an easement on the original B&O depot location as a right of way and work yard.

Potomac River Frontage. The former Potomac Power Hydroelectric Plant sits on the foundations of a pulp mill (converted from the armory rolling mill) along the south bank of the Potomac River, west of the main armory grounds. Two of the original power-generating turbines remain in their delivery flume below the building.

The Armory canal runs east from the canal intake gates, originally completed in 1801, approximately one mile to the power plant. Water was conveyed from the Potomac River down to the various Armory workshops where it provided power to run the machinery used in weapons manufacture. A narrow raceway extended on from the Armory canal parallel to Potomac Street but is now covered by the railroad embankment.

Virginius/Hall's Island. Virginius and Hall's islands extend along the Shenandoah River south of Shenandoah Street roughly from Lower Town to the U.S. 340 bridge.

Extensive ruins on Hall's Island include exposed remains of Hall's Rifle Works where, in 1820, John H. Hall began production of his breech-loading rifle for the U.S. Government. After the Civil War, Hall's Island became the site of the Shenandoah Pulp Mill and Lake Quigley. Walls from Lake Quigley and the ruins of the pulp mill are the most prominent features evident to the visitor today. Structural remains of some of the water control structures can be seen, though many have been covered as a result of repeated flooding.

Virginius Island contains extensive ruins associated with the 19th century industrial heritage of Harpers Ferry. Visible ruins include the canal headgates and intake tunnels, a river retaining wall, a cotton/flour mill and factory, Herr's Mill, and foundations to several single family and worker's rowhouses. Additional resources buried within the archeological record include a water raceway system, sawmill, machine shops, carriage and wagon works, foundries, granaries, and blacksmith shops.

The Winchester and Potomac rail line, now part of CSX, continues to carry freight trains through the island along the original alignment established in 1836.

Camp Hill. Camp Hill maintains a historic quality with many structures from the antebellum and later periods. Thirteen structures on Camp Hill have been included in the List of Classified Structures. Four of the armory residence structures survived the Civil War and became the nucleus of Storer College. After the Civil War, Storer College was established and the Lockwood house and three other former armory buildings were donated to the college. Today parts of the college have been adapted for NPS administrative purposes and are in this area of the national historical park. Other modern structures constructed in the 1960s for the Mather Training Center, the Harpers Ferry Interpretive Design Center, and buildings for the NPS maintenance facilities are located in Camp Hill.

Short Hill. This property is about 2.5 miles down stream from Harpers Ferry and is part of the scenic view of the "gap" featuring the confluence of the Shenandoah and Potomac Rivers and Maryland and Loudoun Heights. The Short Hill property was evaluated and determined eligible for listing on the National Register of Historic Places, but little is known about its resources. Documentation suggests that settlement and development of Short Hill began during the colonial era and continued through the early 20th century. An industrial community developed and structures such as mills, a dam, distillery, quarries, ferry landings, and residences, as well as supporting structures were present.

Schoolhouse Ridge. On Schoolhouse Ridge north is an 1890's era house associated with the orchard era (early to mid 20th century). It is a two story braced frame structure on a

limestone foundation. The house was originally covered with weatherboard siding, which has been covered with rough stucco. The shallow pitched roof is sheathed with raised seam metal; there is one central brick chimney. The interior of the house is extremely decayed. Windows and some moldings appear to be original. Several outbuildings are to the rear of the dwelling house, all of which appear to be of a later construction date than the house.

Schoolhouse Ridge South is the site of the historic Allstadt Farm. Although the original Allstadt Ordinary is not on NPS property, a later 19th -century farm site was established on land that is now managed by the national historical park. In addition to this historic farm site, a series of early 20th century quarry-workers houses associated with the company town of Millville are on the property. Although probably not individually eligible, these houses are significant in the area of industrial history. All of the sites within Schoolhouse Ridge South await formal National Register evaluation.

Murphy Farm. Historic structures at the Murphy Farm include the historic farmhouse, Civil War earthworks, and the foundations for John Brown's Fort. The earthworks were constructed by Union troops in 1864 and remain in relatively good condition. There is one set of earthworks near the crest of the bluff and another partially down the steep banks overlooking the Shenandoah River. A third set of earthworks constructed as a "J" shaped redoubt is near the southern boundary of the farm overlooking the River near the Chambers-Murphy farmhouse. On September 14, 1862, General A.P. Hill's division of 3,000 men marched to and deployed on the Chambers (Murphy) Farm. This maneuver was the turning point of the battle, since Hill had flanked the Union left, forcing the Federal surrender on September 15, 1862.

In addition to Civil War significance, the farm is the location where John Brown's Fort was rebuilt in 1895. In 1896, the Colored Women's League visited the site and in 1906, W.E.B. Du Bois and members of the Niagara Movement conference made a pilgrimage to the Fort on this site. The fort remained at this location until 1909, when it was moved to the campus of Storer College.

Nash Farm. The Nash farm is a small, early 20th-century dairy farm complex that is listed on the National Register. The farm is comprised of several buildings, including a one-story frame gable-end dwelling set on a concrete block foundation that appears to have been subject to a 1960s renovation. A roofed dairy barn with six bays is also set on a concrete block foundation and lies north of the house. A frame milk house between the house and barn is a one-story gable-roofed building, which has been converted into living quarters. Just northeast of the barn is a two-story frame tenant house. In a wooded area on the side of a ravine is a small framed, one room building with German siding and a metal covered gable roof. It has the appearance of a small gothic styled ornamental chapel or shrine, but may have begun as a typical farmstead spring house. East of the tenant house, along the northern tree line is a complex of framed buildings.

Cultural Landscapes

A cultural landscape is a reflection of human adaptation to the environment, and the use of its natural resources. Such a landscape develops from the interrelationships of human derived and natural component features such as general land use patterns, natural topography, scale, spatial organization, boundaries, vegetation, and the arrangement of circulation features such as roads. The development of these landscapes arises from the interaction between humans and their environment which in turn are reflective of the community's values and traditions. Development of these relationships and features through time tends to become solidified and can often

become traditions in and of themselves, thereby providing a visual chronicle of those changes. They are an unparalleled source of information about the times of their development as well as providing a dynamic view through time that is nonetheless intimately connected to the present.

Between 1990 and 1992 NPS staff developed two cultural landscape plans. The first focused on Virginius Island and reflects people's values and attitudes toward land use. The second concentrated on the Lower Town area as both a landscape of historic sites associated with important events, activities, and persons as well as reflecting attitudes toward land use.

Other NPS areas such as Bolivar Heights, Camp Hill, Murphy Farm, Nash Farm and Schoolhouse Ridge Battlefield may exhibit the attributes of a cultural landscape, but they have not been formally identified or evaluated. The national historical park preserves these areas in a manner that attempts to reflect a semblance of how they may have appeared during their period of significance such as in 1862 during the Civil War occupation.

Lower Town. The town's setting retains many of the physical patterns, features, and artifacts relating to historic periods of early settlement, commercial development, industrial enterprise, tourism, and transportation. Land use in Lower Town was dramatically influenced by the limitations of the natural landscape —specifically the rivers and the hillsides.

The response to these limitations is the arrangement, construction method, massing, and grouping of the individual structures as they define public and private spaces, land use boundaries, ownership, material, public access, circulation and drainage that generally establish the backbone of the streetscape and give it a distinctive form.

The streetscape is characterized by a continuum of facades with no set-back, occasionally interrupted by relatively small open spaces resulting from missing buildings. General land use patterns reflect the impact of government ownership of large portions of the town through the early settlement and industrial development. The Hillside above and "behind" Lower Town is a strong natural feature influencing much of the built landscape. Resources in this landscape include remnant walls, foundation ruins, including the structural ruins of the Episcopal Church, and the trail connecting Lower Town and Camp Hill through Harper Cemetery.

Historically, the primary vegetation component was sustenance gardens. These gardens have disappeared over time, and ornamental trees and shrubs have been planted throughout Lower Town.

Virginius Island/Hall's Island. The landscape of Virginius Island strongly reflects the manipulation of the Shenandoah River. James Stubblefield's subdivision of the island into four parcels originally shaped and organized individual properties according to their proximity to waterpower. These parcels developed into separate industrial clusters, with primary structures arranged according to the water system. Natural river channels were adapted and utilized in the earliest island mills. Raceways and water tunnels were constructed and further refined to facilitate the use of waterpower for the entire island.

Advances in mill technology influenced additional changes in the water systems. On Virginius, this progression is evident in the landforms found on the island. Foundations of native stone quarried from the hillside across the canal channel provide evidence of the extensive use of stone on the island for the construction of the mills, raceways, walls and residences.

Virginius Island is the former privately-owned industrial community that was once surrounded by U.S. Armory properties. Functionally, the landscape of Virginius Island

is that of a nature preserve. Vegetation conceals many structural features during the peak visitor season in the summer. Walking along the trails the visitor perceives the island as a nature walk with limited interpretation of the water-powered industry and historical events. Primary access to the site is by foot along Shenandoah Street either at the trailhead adjacent to the national historical park blacksmith shop or by way of Virginius Island Bridge across the Shenandoah Canal. The trail forks in three directions and meanders over the site through the dense vegetation. A branch of CSX carries freight trains, sometimes as often as three times a day, through the island along the original rail alignment established as the Winchester and Potomac in 1836.

Schoolhouse Ridge. Schoolhouse Ridge was under agricultural cultivation prior to the Civil War. For the most part this land has remained in agricultural use up to the present time. However, the area also exhibits a connection to the industrial history of Jefferson County and the nearby town of Millville. "The Standard Lime and Stone Company" built employee homes on the property in the early twentieth century" (NPS 2003b: 1). Those structures are now in ruins and associated landscape components have also suffered neglect since the families left. Little survives that would constitute a historic vernacular landscape of a residential community.

Murphy Farm. The Murphy farm is the site of three landscape components, two of which directly relate to the development of Harpers Ferry. In addition to the agricultural setting that is the dominant component of the landscape, the farm contains both Civil War earthworks and the lone foundation of the 1895-1910 location of John Brown's Fort.

The remnant Civil War earthworks are positioned over the Shenandoah River with a panoramic view of the river valley. Currently a heavily forested ridgeline, during the Civil War vegetation around these earthworks was cleared to provide an open field of fire to anyone approaching Harpers Ferry by road or railroad bed. Vegetation has now invaded the earthworks themselves with bushes and young trees.

Bolivar Heights. The earliest known development of Bolivar Heights consisted of agricultural use. During the battle of 1862 federal Forces were positioned on Camp Hill and Bolivar Heights in order to protect the town of Harpers Ferry. After being surrounded and bombarded by General "Stonewall" Jackson who had arrived to take Harpers Ferry, General Miles surrendered approximately 12,700 men. The agricultural setting of the Heights and the earthworks that were constructed to provide protection to the federal forces and their artillery remain in fairly good condition.

Archeological Resources

Archeology is the scientific study of past human cultures by analyzing the material remains (sites and artifacts) that people left behind.

Archeological sites can provide important information regarding human activities, such as their religions, technologies, and houses, and the environments in which they lived. Many of these sites may be eligible for inclusion in the National Register of Historic Places. Archeological resources representing both prehistoric and historic time periods are documented at Harpers Ferry.

Approximately 43% of the national historical park land has been surveyed and inventoried for archeological sites. This work occurred starting in the 1950s and continues today. However that work has been mostly limited to the Lower Town area, Virginius Island, and Maryland and Loudoun Heights. Work performed in the 1990s also discovered the first evidence of Native American habitation at the confluence of the two rivers.

Inventory and excavation of the extent of archeological deposits covering both the prehistory and history of Harpers Ferry has generated more than 50 reports and over 500,000 objects.

Lower Town. Archeological research conducted over the years exhibits a high density and diversity of archeological resources throughout Lower Town. Baseline data was collected throughout the 10 subareas of Lower Town through archeological survey and excavation beginning in the late 1950s.

This research coincided with the centennial of John Brown's raid and the Civil War. In the mid-1970s, extensive excavation provided considerable evidence about the location of nonextant building foundations, fence lines, pathways, privies, and the material culture of a multiuse commercial and residential block.

Reconstruction of the streets and sidewalks of Lower Town in the late 1970s and the construction of water and sewer lines during this same period prompted additional archeological analysis. Other excavations include the investigation of Building 48, a historic armory worker's house, the backyards of package 116, and excavations of various commercial districts throughout town. Although originally intended to support the restoration/rehabilitation of historic buildings, the result of investigations conducted in 1989 in Lower Town revealed archeological evidence of Native American presence deeply buried near the confluence of the two rivers.

Work conducted over the years supports the notion that substantial archeological deposits likely exist throughout Lower Town.

Federal Armory and Potomac River Frontage. A three-year archeological investigation of the Armory Grounds is underway. This study is focused on an area referred to as the "Lower Armory Grounds" located within the northeast quadrant of the armory site. Portions of a Warehouse and the Smith and Forging Shops are accessible at this location. The area west of the train station, referred to as the "Upper Armory Grounds," is also a prime location for future exploration. Approximately 10 additional armory structures may be accessible in this area. The remainder of armory building foundations are beneath the 1894 and 1931 historic 20-foot high B&0 railroad embankments upon which the Harpers Ferry depot and rail spur sit and which forms the southern and eastern limits of the current armory property.

Virginius Island/Hall's Island. When Virginius Island was included in Harpers Ferry National Historical Park, only ruined remnants from the formerly prosperous industrial community remained. Flooding and vegetative growth on the ruins hastened and intensified the deterioration of the features.

Although the National Park Service has maintained the area as an archeological preserve, some stabilization also has occurred. Restoration of the Shenandoah Canal walls and reconstruction of the Virginius Island Bridge and more recently stabilization of the headgates, cotton/flourmill, cotton mill (Valley Mill), portions of the river wall, and the water intake tunnels are the most prominent preservation treatments efforts. Ingenious engineering methods, including a series of canals and underground water intake tunnels and raceways designed for transporting water for powering the mills, constitute the remnants of the water system and remain in their historical context.

A chopping mill, machine shop, sawmill, foundry, blacksmith shop, and pulp mill, as well as foundations of five individual dwellings and remnants of the rowhouse complex comprise the remainder of the structural ruins on the island. Of these sites the machine shop, sawmill, West rowhouse, Wernwag House, Wernwag Street, and Schofield House were located and explored as part of an archeological investigation conducted in the 1990s.

In addition, archeological resources on neighboring Hall's island include remnants of the rifleworks foundations, the Lake Quigley wall, and the pulp mill.

Maryland & Loudoun Heights. The majority of remnant fortifications on Maryland and Loudoun Heights reflect Federal occupation of the area between 1862 and 1865. These fortifications also served as the eastern and southern segments of a huge federal fortress line constructed north of Harpers Ferry. Seven of eight major fortifications constructed by Union soldiers in 1862 and 1863 sit upon Maryland Heights (NPS 1992), including earthen redoubts and batteries, a stone fort and associated buildings, stone breastworks, large campground areas, and an old Union military road crisscrossing the mountain. Many of these archeological ruins remain relatively intact.

Many of the Loudoun Heights historic fortifications, campsites, and domestic sites remain. Also extant are remnants of the military road, built sometime after 1827 (and rebuilt in 1862) and used for both access to the timberland and by Confederate troops to move supplies and troops to the summit.

Stone foundations, tent platforms, and plateaus cleared of stone for Civil War camp areas have been identified on Maryland Heights (NPS 1989). Archeological surveys recorded 13 campgrounds encompassing nearly 60 acres of encampment scattered over the mountain. Eight of these campgrounds lie adjacent to fortifications or batteries.

Charcoal hearths and 23 miles of charcoal-related roads on Maryland Heights helped fuel the Antietam Iron Works at the mouth of Antietam Creek 12 miles to the northwest.

Along the Potomac River, the C&O Canal and its towpath hug the base of Maryland Heights. The Appalachian Trail (AT) follows the towpath to the CSX Bridge across the Potomac at Harpers Ferry. Domestic sites dating from before and after the Civil War are found at the base of the mountain's eastern slopes. Scant remains of dwellings are also found on the eastern side of the Heights.

Bolivar Heights (and Elk Run Natural Area). Bolivar Heights is most famous as the location of the surrender of 12,500 Union soldiers to General Stonewall Jackson on September 15, 1862. During the remaining three years of Civil War, Federal forces encamped on Bolivar's slopes and erected extensive field fortifications as part of a large fortress designed to protect Harpers Ferry. Remains of these earthworks extend along the crest of the ridge.

Cavalier Heights. Only compliance-driven archeological surveys have been conducted at Cavalier Heights. These surveys resulted in no National Register of Historic Places eligible sites being identified. The remainder of the area has not been subjected to an intensive survey though it is likely that archeological sites and materials exist.

Short Hill. While the area's primary use is for viewshed preservation, known historic archeological sites on Short Hill include Peachers Mill, a substantial ruins complex adjacent to the river with an associated dwelling, outbuildings, millrace, and dam across the Potomac. The Short Hill tract also exhibits at least four dwellings and a dam on Falls Branch. Also present are a lime kiln, several stone fences, and road traces. (NPS 2003c:1).

Schoolhouse Ridge. Other than a clearance study conducted in concert with the proposed construction of the MARS II facility (now site of the US Customs and Border Protection Advance Training Facility), the majority of this area of the national historical park has not been formally surveyed for archeological sites. Nevertheless, there are remnants of a 20th-century quarry-workers community as well as a 19t century farm site on Schoolhouse Ridge Battlefield south. The structures themselves

are in various stages of collapse and ruin. A systematic shovel test pit survey was also conducted on the Union Skirmish Line Portion opposite Schoolhouse Ridge, north. This survey provided archeological clearance prior to an agricultural lease agreement. No archeological sites were recorded.

Murphy Farm. Although no formal archeological investigations have been conducted on the Murphy Farm, objects collected by the former owner may indicate the presence of a prehistoric site.

Remnants of a foundation that supported John Brown's Fort are on the farm. After being displayed at the *World Colombian Exposition in* 1891, the fort was rebuilt on land donated by Alexander Murphy. In 1910 the fort was dismantled and removed to Storer College on Camp Hill. The foundation of fieldstone at the Murphy Farm remains generally intact.

The Civil War earthworks have not been formally surveyed, although information gained from the previous owner indicates that he conducted personal excavations at these sites. Artifacts collected on the farm have been donated to the national historical park; however, there is no record to tie artifacts to excavations.

Shenandoah City/Bull Falls. In 1978 the NPS Denver Service Center conducted archeological surveys on Cavalier Heights and along the north shoreline of the Shenandoah River as part of the study for a new visitor transportation system. A limited reconnaissance survey was conducted in the area of Shenandoah City, documenting remnants of an historic road trace (Rough and Ready Road), bridge abutments associated with the historic road, an unidentified structure, ruins of an unidentified mill or factory, portions of Strider's Mill and head race, portions of Strider's Mansion, a portion of the Patowmack Canal, and additional unidentified structures near the intersection of Shenandoah and Union Street. Historical data alludes to approximately 20 structures making up Shenandoah City during the time of the Civil War. More intensive excavations of this area could reveal more of its history.

NATURAL RESOURCES

OVERVIEW

Natural resources at the Harpers Ferry water gap have attracted human attention for centuries. Native Americans, early settlers, railroads, and canal builders used the gap in the Blue Ridge Mountains as an avenue of travel and transport. The rivers that carved the gap also produced power for the town's mills and factories. Hardwoods from the mountains provided charcoal for industry and fuel for stoves. Harpers shale provided excellent building material. The battle with nature continues as severe floods have repeatedly ravaged human-built structures.

The national historical park is located where three physiographic provinces overlap: Valley and Ridge, Blue Ridge, and Piedmont. Ecological types include riparian zones, agricultural fields, upland forests, developed areas, wetlands, important geologic exposures, rock slide sites, and rare limestone glades. There are approximately 15 miles of river shoreline and 100 acres of wetlands.

WATER RESOURCES (INCLUDING WETLANDS)

About 360 million years ago, the Potomac River began cutting its way through the Appalachian Mountains, forming the water gap that lies between Maryland Heights and Loudoun Heights. Precipitation collecting at the base of the Appalachian Mountains forms the Shenandoah River. The Shenandoah and Potomac rivers converge at Harpers Ferry and flow eastward to Chesapeake Bay as the Potomac River. The rivers are not within the national historical park's authorized boundary.

In addition to the two major rivers, there are three perennial streams and several canals within the national historical park boundaries. The streams are Elks Run and Flowing Springs in West Virginia, and Piney Run in Virginia. Piney Run has a scenic set of falls near the Potoma Wayside. There is also a small ephemeral stream fed by springs on the west side of Maryland Heights. Canals include the Chesapeake and Ohio Canal (C&O) on the east side of the Potomac River, the Federal Armory canal on the Potomac frontage, the Shenandoah Canal adjacent to the Shenandoah River, and the historic Potomack Canal in the Lower Town area. The hydrology and topography of the area is such that surface and subsurface springs are numerous (NPS 1986).

Water Quality

The NPS Natural Resource Information Division (NPS 2003e) indicates that natural sources of water hardness in Harpers Ferry are calcium and magnesium. The presence of calcium is very common due to the large quantities of limestone ($CaCO_4$) in this region. The presence of limestone also helps to buffer river waters against acidic conditions. Sodium, potassium, iron, and manganese are also present in the Potomac and Shenandoah Rivers. If large enough amounts are present, iron and manganese can be indicators of acidic water.

Both domestic and industrial wastes are sources of water pollution in the Harpers Ferry area. Agricultural practices, including the use of fertilizers and pesticides, and heavy rainfall events are primary contributors to contamination of the streams and rivers. The amount of forest cover, land use, and waste from industries each affects sedimentation. Most of the suspended materials in the Potomac and Shenandoah rivers are the products of soil and channel erosion, while some are industrial wastes (NPS 2003e). These sources of pollution are outside national historical park boundaries.

Wetlands

Wetlands are identified by the presence of hydrophytic plants, hydric soils, and frequency of flooding. Wetlands within the national historical park are mainly along the floodplains of the two rivers; however, a wetland created by beavers is along Flowing Springs Run in Jackson's Right Flank. Historic canals and headraces for water-powered industry that are no longer used have become de facto wetlands. According to the National Wetland Inventory (accessed at www.nwi.fws.gov), the national historical park contains more than 100 acres of wetlands. Most of these are classified as palustrine, forested (deciduous), and temporarily flooded (USFWS 2005). Other areas classified as wetlands are within the river's banks and not on NPS land.

The most prominent wetland in the national historical park is the 7-acre area adjacent to Shoreline Drive that is the former Lake Quincy, a man-made lake that was part of the Shenandoah Canal. In this wetland, a few inches of standing water lie above the substrate, with greater duckweed *(Spirodela polyrhiza)* frequently covering the surface. This type of habitat supports many species of both terrestrial and aquatic invertebrates, small mammals, waterfowl, marsh birds, reptiles, and amphibians.

Floodplains

Floodplains are along the shores of the Potomac and Shenandoah rivers, sometimes reaching inland along stream banks that drain into these rivers. Many of the structures in Lower Town are within the floodplains of these two rivers and subject to inundation during high river flows. Flooding of these structures is of a particular concern when they house expensive interpretive exhibits or irreplaceable museum collections.

According to the historic record, Harpers Ferry may experience a flood over 20 feet every 5 to 10 years. The 1936 flood, which reached a record height of 36.5 feet, is estimated to only occur every 125 years. Floods in the national historical park tend to be fairly deep, since there is not much room for river water to spread out once it overflows its banks. Heavy precipitation that produces rapid runoff is a major flood-causing factor.

Flood Water Levels (data from Harpers Ferry National Historical Park)

5 ft.	River is considered hazardous for recreational use
16 ft.	Approximate level of C&O Canal Towpath on the Maryland side of river
18 ft.	Official Flood Stage. Low-lying roads adjacent to the Shenandoah River begin to inundate due to backwater effects
19.5 ft.	Water reaches Bruce and Hamilton Streets
20.5 ft.	Water begins to flow through tunnel (vomitorium) from Potomac River into the lower edge of town. Half of Market Street is flooded. Water covers about half of the shuttle bus parking lot
21.5 ft.	Water reaches Shenandoah Street adjacent to the shuttle bus pavilion
22.5 ft.	Shenandoah Street flooded to the edge of the business district
29-30 ft.	All buildings along Shenandoah Street are flooded

Noteworthy Flood Events (from National Weather Service webpage)

11/25/1877 — 29.2 feet
06/01/1889 — 34.8 feet
10/01/1896 — 33.0 feet
03/19/1936 — 36.5 feet (Highest level ever recorded)
04/27/1937 — 29.0 feet
10/16/1942 — 33.8 feet
06/23/1972 — 27.7 feet (Hurricane Agnes)

11/06/1985 — 30.1 feet
01/21/1996 — 29.4 feet
09/09/1996 — 29.8 feet (Hurricane Fran)

SOILS

Common soil associations found within the national historical park include the Berks-Weikert, whose shaley silt loams are very conducive to erosion and located in patches throughout the town itself. From the Potomac River northwest of Harpers Ferry to Bloomery Road, the Benevola-Frankstown-Braddock Association can be found. The Benevola series is clay, whereas the Frankstown series is shaley silt loam, and the Braddock series is gravelly loam. Most of the Benevola-Frankstown-Braddock Association is underlain by limestone and quarried by steel corporations for use as blast furnace flux. Frankstown soils are included in the USDA category of unique farmland. The Braddock-Landes-Ashton Association lies along the banks of the Shenandoah River, where its Landes series, which is a fine sandy loam, is subject to occasional flooding (NPS 2003e).

On the foothills below the Blue Ridge Mountains, the Dekalb-Laidig Association is found running from the Virginia state line to the Potomac River north of Bolivar Heights. This soil is well-drained, containing stones throughout. Slopes in this association are steep, restricting intense land uses. Adjacent to the Blue Ridge Mountains is the Weikert-Berks Association, with shaley silt loams that are severely eroded as a result of streams dissecting the association on their way to the Shenandoah River. Occupying the foot slopes, the side, and the crest of the Blue Ridge Mountains is the Edgemont-Laidig-Steep Rockland Association. Soils in this Association are a shaley silt loam underlain by shattered shale and fine-grained sandstone. The only local alluvium in the national historical park is the Huntington silt loam of the Duffield-Frankstown-Huntington Alluvium Association. Generally this association is suited to dairy and general farming, and orchards, but can also be used for residential development (NPS 2003e).

CAVES

Caves and numerous rock shelters have formed in or near the boundaries of Harpers Ferry. Subterranean ecosystems are typically in an extremely delicate balance and easily disrupted by human and natural events. Recreational use can be allowed where there would be no irreversible damage to cave life or other resources.

There are three known caves on or near the national historical park. John Brown's Cave and John Brown's Annex Cave are in a bluff near the banks of the Potomac east of Elks Run. John Brown's Cave is rumored to have been used by John Brown to store weapons when preparing for his famous raid on the Federal Armory. However, due to the relatively small entrance and dampness of the cave, this is unlikely. The cave entrance is in the CSX railroad right-of-way and has been gated. Beyond the entrance, the cave is under NPS land. The cave is well known in the region and the front portion has been heavily vandalized. The back portions of the cave are beyond a sump (where the water meets the ceiling) that is passable only during dry periods. John Brown's Annex is a small cave above John Brown's Cave in the same cliff. (Information provided by Bob Bennett of the Tri-State Grotto of the National Speleological Society, Gerrardstown, West Virginia.)

Harpers Ferry Caverns are on land that was once private and is now owned by the Civil War Preservation Trust. Harpers Ferry Caverns is relatively small but was developed with trails, stairs, and lights and opened for tours when it was privately owned.

The federally endangered Indiana bat uses caves as roost sites and may be in the area. A federal species of concern, the Allegheny

woodrat, may use caves for its home. John Brown's Cave is known to contain three types of salamanders and the Eastern pipestrelle bat. It is highly probable that other caves and rock shelters may harbor some forms of life.

VEGETATIVE COMMUNITIES

Native Plants

Numerous ferns, grasses, sedges, and rushes play a valuable role in the national historical park's plant communities. Trees such as chestnut oak and tulip poplar often dominate the forest canopy; whereas red maple and hackberry and common shrub species make up the understory. A variety of wildflowers color the hillsides every spring.

Many fern species have been found occupying a wide variety of habitats. On the rock ledges and crevices, woolly lip fern *(Cheilanthes tomentosa),* the locally rare lobed spleenwort *(Asplenium pinnatifidum),* and the common polypody *(Polypodium virginianum)* are likely to be found. But on the steep, rocky, and partially shaded slopes of Short Hill, Maryland Heights, and Loudoun Heights, marginal shield fern *(Dryopteris mariginalis)* and Christmas fern *(Polystichum acrostichoides)* are more common. The floodplains and moist, shaded, low slopes surrounding the Potomac and Shenandoah Rivers support even more fern species, including intermediate shield fern *(Dryopteris intermedia),* New York fern *(Thelypteris noveboracensis),* and fragile fern *(Cystopteris protrusa).*

Grasses and grass-like plants, including sedges and rushes, are a diverse and important part of plant communities. On the dry, rocky ridge tops of Maryland Heights, Loudoun Heights, and Short Hill, poverty grass *(Danthonia spicata)* and greenish sedge *(Carex virescens)* are the most frequent species encountered. At lower elevations on these ridges, cliff muhly *(Muhlenbergia sobolifera),* tall brome-grass *(Bromus pubescens),* and Bosc's panicgrass *(Dicanthelium boscii)* are commonly found. In floodplain forests, there are species such as nodding fescue *(Festuca subverticillata)* and deertongue grass *(Dicanthelium clandestinum).* Prairie grasses such as big bluestem *(Andropogon gerardii),* the locally uncommon prairie cordgrass *(Spartina pectinata),* and the bank-stabilizing Emory's sedge *(Carex emoryi)* are more likely to be seen along the riverbanks of the Potomac and Shenandoah.

Colorful wildflower species such as woodland sunflowers *(Helianthus strumosus),* birdfoot violets *(Viola pedata),* and Virginia bluebells *(Mertensia virginica)* grow in the forest. Along the banks of the Potomac and Shenandoah rivers, a different group of wildflowers can be seen, including monkeyflower *(Mimulus ringens),* wide-leaved joe-pye weed *(Eupatorium purpureum),* and the New England aster *(Aster novae-angliae).*

A wide variety of tree and shrub species occur in the 70% of the national historical park that is forested. Chestnut oak *(Quercus prinus)* is usually the dominant tree in the forest canopy on rocky soils of higher ridges such as Maryland Heights. Black oak *(Quercus velutina)* is also important on south, west, and east facing slopes. Northern red oak *(Quercus rubra)* is found with chestnut oak on rocky, north-facing slopes, where eastern hemlock *(Tsuga canadensis)* was formerly prominent. Red maple *(Acer rubrum),* black gum *(Nyssa sylvatica),* and flowering dogwood *(Cornus florida)* are frequent understory trees, while mountain laurel *(Kalmia latifolia),* black huckleberry *(Gaylussacia baccata),* Blue Ridge blueberries *(Vaccinium pallidum)* and deerberry *(V. stamineum),* and maple leaf viburnum *(Viburnum acerifolium)* are common shrubs.

Lower elevation, north-facing slopes with base-rich soils support a mixed mesophytic forest of northern red oak, white ash *(Fraxinus americana)*, sugar maple *(Acer saccharum)*, basswood *(Tilia americana)*, hackberry *(Celtis occidentalis)*, bitternut hickory *(Carya cordiformis)*, slippery elm

(Ulmus rubra), and tulip poplar *(Liriodendron tulipifera)*. Shrubs of the mesophytic forests include spicebush *(Lindera benzoin)*, hop hornbeam *(Ostrya virginiana)*, American bladdernut *(Staphylea trifolia)*, and pawpaw *(Asimina triloba)*.

There are two extensive types of floodplain riparian forests along the Potomac and Shenandoah Rivers: lower areas that flood an average of once everyone to three years have silver maple *(Acer saccharinum)* as a prominent component with associated species such as sycamore *(Platanus occidentalis)*, green ash (*Fraxinus pennsylvanica)*, and cottonwood *(Populus deltoides);* higher parts of floodplains have a diverse forest of sycamore, white and green ash, tulip poplar, bitternut hickory, hackberry, sugar maple, black walnut *(Juglans nigra)*, and the locally rare Shumard oak *(Quercus shumardii)*. Spicebush, pawpaw, American bladdernut, and American hornbeam *(Carpinus caroliniana)* are among the most common shrubs of floodplain forests.

The town of Harpers Ferry was generally cleared of vegetation in 1859, except for a few trees retained to provide shade. Most of the remaining ground was covered with grass or ornamental vegetation. Upland areas were completely cleared for fuel, building material, and artillery firing lines at various times. Present vegetation is secondary or tertiary growth. The original chestnut-oak forests have been succeeded by oak-hickory climax forests. The once-predominant American chestnut was eliminated from the area by the 1930s (NPS 1986). This extirpation was partly a result of a chestnut blight that affected the eastern U.S. in the first half of the 20th century.

Nonnative Plants

Nonnative species, also known as exotic, alien, or introduced species, are defined as species that occur in a certain place due to deliberate, accidental, direct, or indirect human actions. Harpers Ferry's long history of human habitation is responsible for the introduction of many nonnative plant species. These were brought into the area as ornamental landscape plantings, livestock feed, or for other purposes. Others, such as noxious weeds, are undesirable but continue to spread, especially in disturbed areas.

Invasive, nonnative species are capable of displacing native species, and therefore threaten the diversity and integrity of native communities. Based on vegetation inventories conducted in the 1990s, over 260 nonnative plant species have been identified in the national historical park, including the garlic-mustard *(Alliaria petiolata)*, Japanese honeysuckle *(Lonicera japonica)*, tree-of-heaven *(Ailanthus altissima)*, Japanese stilt-grass *(Microstegium vimineum)*, and wineberry *(Rubus phoenicoiasius)*. In 2002-2003, the NPS National Capital Region's Exotic Plant Management Team inventoried 51 of the most invasive species and mapped their ranges. The inventory indicates that these plants inhabit over 43,000 acres (cumulative acreage for all the nonnative species). Garlic-mustard alone inhabits over 2,000 acres of the national historical park.

FISH

Historically, 43 species of fish have been encountered in the national historical park, including the Potomac and Shenandoah rivers and their tributaries. Freshwater game fish include largemouth and smallmouth bass *(Micropterus salmoides* and *M. dolomieu*), channel catfish *(Ictalurus punctatus)*, and bluegill sunfish *(Lepomis macrochirus)*. Other fish indigenous to the river waters include dace, chub, shiner, darter, minnows, bullhead, and carp. Eels may also be present here.

In an inventory study conducted by Richard Raesly in 2003, fishes were collected from Elks Run, Flowing Springs Run, and Piney Run. A total of 632 fishes representing 32 species

from six families were captured and identified (for a species list, see appendix C). All species have been previously reported from the Potomac River. This represents a reasonably high diversity of fishes given the limited amount of stream habitats within the national historical park (Raesly 2003, see appendix D).

WILDLIFE

Native Animals

Harpers Ferry is home to a highly diverse animal community of insects, reptiles, amphibians, birds, and mammals. Habitat types include riparian zones, agricultural fields, upland forests, developed areas, wetlands, geologic exposures, rock slide sites, and rare limestone glades.

Approximately 140 insect species, including spiders, butterflies, ticks, mites, millipedes and centipedes, have been identified in the national historical park. Butterfly species that have been observed include eastern tiger swallowtails *(Papilio glaucus),* zebra swallowtails *(Eurytides marcellus marcellus),* meadow fritillaries *(Boloria bellona bellona),* silver-spotted skippers *(Epargyreus clarus),* and monarchs *(Danaus plexippus).*

The national historical park is home to two frog species and eight species of salamanders, including the northern green frog *(Rana clamitans),* the wood frog *(Rana sylvatica),* the spotted salamander *(Ambystoma maculatum),* and the seal salamander *(Desmognathus monticola)* .

Eastern box turtles *(Terrapene carolina)* and Eastern milksnakes *(Lampropeltis triangulum)* are often encountered in the national historical park. These reptiles are found in the mountains and within the lower historical district. Northern red-bellied turtles *(pseudemys rubriventris)* also live in the national historical park. Other snakes found here include the common water snake *(Nerodia sipedon)* and northern copperhead *(Agkistrodon contortrix).* Lizards frequently spotted within the national historical park's forests include the broadheaded skink *(Eumeces laticep)* and the fence lizard *(Sceloporus undulatus).*

Over 170 bird species have been identified in the national historical park. The specific species depends on the habitat encountered. Great blue herons *(Ardea herodias)* and Canada geese *(Branta canadensis)* are found along the banks of the Shenandoah Canal. On Maryland or Loudoun Heights, species such as the pileated woodpecker *(Dryocopus pileatus)* and Baltimore oriole *(Icterus galbula)* are likely to be seen. A bald eagle *(Haliaeetus leucocephalus)* may be seen over the national historical park between late winter and early summer. Along with bird species that reside here year round, many other species use the national historical park during their spring and fall migrations.

Harpers Ferry is home to more than 30 mammal species. Some of these, however, such as the American mink *(Mustela vison)* and the short-tailed shrew *(Blarina brevicauda)* are not frequently observed. On Loudoun Heights, gray and fox squirrels *(Sciurus carolinensis* and S. *niger),* and eastern chipmunks *(Tamias striatus)* are commonly seen. The southern flying squirrel *(Glaucomys volans)* was found in the national historical park in a 2001 mammal survey. Groundhogs *(Marmota monax),* Virginia opossums *(Didelphis virginianus),* raccoons *(Procyon lotor)* and several bat species are common. White-tailed deer *(Odocoileus virginianus)* move and feed throughout undeveloped districts of the national historical park. Park resource specialists are concerned that deer have overpopulated the Maryland Heights district and are causing impacts on other resources.

Nonnative Animals

Invasive, nonnative species are capable of displacing native species and therefore threaten the diversity and integrity of native ecosystems. Nonnative animal species found in the national historical park include gypsy moth *(Lymantria dispar),* hemlock woolly adelgid *(Aldeges tsugae),* European starlings *(Sturnus vulgaris)* and house sparrows (*Passer domesticus)*.

SPECIAL STATUS SPECIES

Federally Listed Species and Species of Concern

In addition to plant and wildlife species that are federally listed as threatened, endangered or candidate, the National Park Service must address potential impacts to federal species of concern. Species of concern are those for which the U.S. Fish and Wildlife Service has information indicating that protection under the Endangered Species Act may be warranted. While these species lack formal recognition as candidates for possible future listing under the Endangered Species Act, it is the policy of the National Park Service to inventory, monitor, and manage species of concern in a manner similar to its treatment of federally listed species.

Table 8 was derived from lists provided by Fish and Wildlife Service field offices in West Virginia, Maryland, and Virginia. This table indicates only those species known or probable on national historical park lands.

The Indiana bat *(Myotis sodalis)* could conceivably be affected by management actions because it may use the area for foraging and roosting between April 1 and November 14. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. The national historical park contains all of these habitat types. Roosting and maternity habitat consists primarily of live or dead hardwood tree species such as shagbark hickory, which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites (USFWS-WV 2002).

TABLE 8. FEDERALLY LISTED SPECIES

State	Listed Species	Species of Concern
West Virginia	Indiana bat *(Myotis sodalis),*	Butternut *(Juglans cinerea)*
	Endangered, possible summer resident	Allegheny woodrat *(Neotoma magister)*
		Cerulean warbler *(Dendroica Cerulean)*
		Migrant loggerhead shrike *(Lanius ludovianus migrans)*
		Dotted skipper *(Hesperia attalus Slossonae)*
		Bigger's amphipod *(Stygobromus biggersi)* found in Ditmer Cave
Maryland	Bald eagle *(Haliaeetus leucocephalus),* Threatened, nest on island in Potomac River near Short Hill	(None known in national historical park)
Virginia	(None)	(None known in national historical park)

Limestone caves are used for winter hibernation by this species. The preferred caves have a temperature averaging 37 degrees to 43 degrees Fahrenheit in midwinter, and a relative humidity averaging 87%. There are 29 known hibernacula (shelters for winter hibernation) for the Indiana bat in the limestone region of eastern West Virginia in Preston, Tucker, Randolph, Pendleton, Pocahontas, Greenbrier, Monroe, and Mercer Counties. The population of each hibernaculum in West Virginia ranges in size from one to 9,000 individuals. Recent data indicate that the area within an approximate 5-mile radius of a hibernaculum is important foraging and roosting habitat for the Indiana bat in the fall swarming period, August 15 through November 14. A roosting colony was identified along the C & 0 Canal in Maryland (USFWS-WV 2002).

Bald eagles *(Haliaeetus leucocephalus)* are federally listed as threatened. A bald eagle's nest is on an island in the Potomac River adjacent to the Short Hill portion of the national historical park. Eagles have successfully bred here for the last 5 years (NPS staff). Although the island is not in the national historical park boundary, the eagles could use adjacent NPS lands. Any action prescribed for Short Hill would be analyzed for potential impacts to eagles using this nesting site. The breeding season for bald eagles in Maryland, Virginia, and West Virginia is generally December 15 through June 15 (sometimes up to July 15 for eagles that are nesting later due to earlier failures). This species is currently listed as threatened but has been proposed for delisting due to population recovery.

The **Allegheny woodrat** *(Neotoma magister),* a federal species of concern, was found in the national historical park in the summers of 2001 and 2002 (McShea and O'Brien 2003). It prefers habitat with cliffs, caves, or rock outcrops.

There is no designated critical habitat for any of these species in Harpers Ferry NHP. Also, there are no federal threatened or endangered plants known in the national historical park.

State-Listed Species in the National Historical Park

Table 9 shows the state-listed species that might occur in the national historical park.

The American peregrine falcon breeds in Mexico, the United States, and Canada. Peregrine falcons lay their eggs in "scrapes" in the soft earth on the floor of their nests, which are typically on ledges and in small shallow caves high on cliff walls (USFWS Endangered Species webpage). They prefer open territory for foraging. In 1999 this species was removed from the federal endangered species list after making a comeback in the coastal areas of the East. However, it continues to be listed as a state endangered species in Virginia and Maryland. The national historical park is cooperating in the Peregrine Falcon Restoration Project breeding program and has installed nesting boxes on Maryland Heights above the Potomac River. This effort has successfully raised and released 29 falcons since its inception in the summer of 2001.

To protect the peregrines, NPS staff implements an area closure for 300 feet around the site when they are present (early June through late July). The falcons move out of the area by late July and the closure is lifted. However, if a breeding pair has established, a closure around the nesting location is imposed for the nesting period, which could be as early as February and as late as July. The closure would extend for about one month after the chicks fledge (begin flying). Given this variability, a closure of the vicinity could be February to August.

TABLE 9. STATE LISTED SPECIES

State	Plant	Animal
West Virginia	Short's rock-cress Wild blue indigo Glomerate sedge Chestnut lipfern Woolly lipfern Awned cyperus Hairy swamp loosestrife Halberd-leaved mallow Winged-loosestrife Starflower false Solomon's-seal Yellow nail-wort Arrow-arum Torrey's mountain-mint Shumard oak Rock skullcap Snowy campion Four-flowered loosestrife Three-flower melic grass Flat-stemmed spikerush	Osprey Broad-headed skink Wood turtle
Maryland	Lobed spleenwort Crested iris	Pepper and salt skipper Giant swallowtail Allegheny woodrat Peregrine falcon (reintroduced)
Virginia	Short's rock-cress White trout-lily Sweet-scented Indian Plantain Winged loosestrife	Peregrine falcon (reintroduced)

SOURCE: Derived from lists provided by the state natural resources departments of West Virginia, Maryland, and Virginia.

SOUNDSCAPES

Natural soundscapes exist in the absence of human-caused sound. The natural soundscape in Harpers Ferry is a result of the biological and physical resources of the national historical park such as:

- sounds produced by animal life such as birds, frogs, and insects to define territories or attract mates
- sounds produced by physical processes wind in the trees, flowing water, or claps of thunder

Natural sounds predominate throughout most of the undeveloped outlying portions of the national historical park (Maryland Heights, Loudoun Heights, and Short Hill). Current impacts on the natural soundscape in these areas are primarily from trains using the two tracks and traffic noise from U.S. Highway 340. At the Jackson's Right Flank and Schoolhouse Ridge (Union Skirmish Line) portions of the national historical park, noise from agricultural operations could disturb the natural quiet at certain times of the year. Also at Jackson's Right Flank, noise from operation of the adjacent U.S. Customs and Border Patrol Firearms Training Facility could periodically affect the natural sounds cape in that area.

Human-caused sounds are prevalent in the developed portions of the national historical park within the town limits of Harpers Ferry and Bolivar. In certain places near the rivers, the natural sound level may be great enough to overcome some human sounds. Levels of human-caused sound will also fluctuate with variations in weather conditions (including temperature, wind and humidity) and the general topography of these areas.

LIGHTSCAPES

The clarity of night skies is important to the visitor experience as well as being ecologically important. Artificial light sources both within and outside the national historical park have diminished the clarity of night skies by creating a "haze" of light that obscures views of stars and distant topographic features. The primary culprit is any type of outdoor lighting that allows light to shine up into the sky. Outdoor lighting is common throughout the region, including inside national historical park boundaries. While such lighting may be necessary for safety or security reasons, there are outdoor lighting fixtures available that direct light downward and do not allow stray light to scatter into the sky.

VISITOR EXPERIENCE

Harpers Ferry National Historical Park is in the eastern panhandle of West Virginia. Visitors access the national historical park via U.S. 340 from West Virginia or Maryland. The national historical park is open year around. It is a day-use park, but overnight accommodations such as motels and campgrounds are provided in surrounding communities. Hours that the facilities and historic structures are open vary by season.

National historical park visitors are encouraged to begin their visit at Cavalier Heights where the contact station is and the boarding area for the shuttle buses to Lower Town. Once in Lower Town visitors may explore the historic buildings on their own. Interpretive talks, tours, or demonstrations are held occasionally during the summer. The main information center, several museums, and public restrooms are in Lower Town. The cooperative association (Harpers Ferry Historical Association) operates a bookstore in Lower Town and a small outlet in the visitor contact station.

VISITATION STATISTICS

Visitation at the national historical park has averaged about 300,000 over the last 15 years. During this period, there has been a downward trend in national historical park visitation numbers as shown in Table 10. Part of this trend can be attributed to the drop in NPS visitation nationwide (NPS Public Use Statistics Office). Summer (June through August) is the heaviest visitor use season, with winter (December through February) being the lightest. The Business Plan for the national historical park states that 80% of visitation occurs between May and October, 53% occurs on weekends, and 28% occurs during holidays and special events (NPS 2002).

TABLE 10. NATIONAL HISTORICAL PARK VISITATION

YEAR	VISITS
2005	237,500
2004	267,555
2003	264,470
2002	286,289
2001	321,022
2000	318,945
1999	338,730
1998	354,830
1997	337,385
1996	325,074
1995	412,967
1994	397,757
1993	379,957
1992	471,515
1991	474,000
1990	576,000

Source: NPS Public Use Statistics Office

A portion of the interstate Appalachian National Scenic Trail goes across the national historical park from Loudoun Heights through Lower Town. The National Park Service has recently acquired additional land that was the location of Civil War activity. Because these areas are new to the national historical park, no public use data are available.

In 2003, the Economic Restructuring Committee conducted a survey in the commercial area of downtown Harpers Ferry. The area surveyed encompasses the area known as Lower Town. The sample consisted of 518 participants. Though not a true random survey (due to fewer than required random distribution times, dates, or people sampled), it offers valid information about visitors not available through the annual visitor use survey done in the national historical park by the National Park Service each year.

The purpose of the survey was to identify the users at Harpers Ferry National Historical Park and determine how visitors could

become attracted to the site. Originally the survey was to help Main Street merchants determine strategies for economic revitalization. Today, the results are being used to determine Harpers Ferry user groups their needs, and their expectations.

A compilation of the 2003 survey results showed that visitors arrive at the national historical park in a variety of ways. A large number of visitors arrive in Lower Town by foot or car and do not use mandated alternate transportation. Bus riders only comprise 44% of total visits to the national historical park. Of overall visitation, 53% of visitors arrive via alternative means, 38% by car and 15% by foot, bike or trail. The NPS shuttle transported 44% of visitors polled. Of the remaining visitors traveling to and within Lower Town, 53% traveled of their own accord, either by vehicle, bicycle, hiking, or walking.

When asked about visiting shops in lower town, 75% of visitors frequented shops, while 23% did not. Of the 23% that did not visit shops, 32% stated that they had no time, and 28% stated no interest in shopping. Of those people that did not visit shops, 5% stated that no information or directions to the shops were available. Some visitors were lost and did not know their location, 3% had pets or children and did not visit with 3% stating stairs and weather prevented an enjoyable visit.

When visitors were asked how often they visited the national historical park, 43% were first-time visitors, 20% were second-time visitors, 8% were there for the third time, and 28% were there for the fourth time or more. From this data, we can determine that 56% of visitors to the national historical park have come before. When asked why they visited the national historical park, 62% of visitors participated in a recreational activity or were seeking one. Of these, one third walked, rode, bicycled to, or camped in the national historical park. Of visitors that frequent the national historical park, 21% were 40-55 years old, 19% were 25-39 years old, 12% were 55 and older, and 6% were 25 years old or younger. Of those, 23% were described as one adult with persons under 18, with the second most common group between 40-55 years old.

The 518 people in the survey were asked to list a reason they came to the national historical park. Thirty seven percent (191) took a day trip, 122 stated history (24%) drew them to the national historical park, 82 said they enjoyed hiking, bicycling, and/or walking (10%), 28 enjoyed shopping and eating (5%), and the remaining 84 respondents (24%) visited the national historical park to enjoy the scenery, visit family, participate in field trips, raft, attend conferences, volunteer, and celebrate birthdays and anniversaries. Of this group, 29 (5%) did not respond.

The visitor use survey identified additional issues:

- a very small percentage of foreign visitors
- unhappy with the commercial vendors or service
- lack of good quality food, cost of food
- inadequate national historical park map access
- lack of designated overnight facilities for scouts or other youth organizations

While in the national historical park, visitors engage in viewing interpretive displays, attending interpretive programs, viewing historic structures, and hiking/walking. Hikers, nature observers, and people wanting to explore historic sites visit the outlying natural areas such as Maryland Heights and Loudoun Heights. Visitor use of Short Hill and the Shenandoah City area is not encouraged. There are no amenities for visitors at the recently acquired Civil War battlefield sites on Schoolhouse Ridge.

Visitors primarily use self-guided walking tours to sites. They may tour the historic buildings and locations at their own pace and in their own order. Outside Lower Town, however, there is little directional or interpretive information available so visitors are on their own.

The national historical park sponsors occasional special events, such as music concerts on the Green in Lower Town or at Cavalier Heights. Fourth of July fireworks shows were once presented by the national historical park, however, due to the large crowds and security concerns, this event is no longer offered.

Some popular recreational activities of the past have been curtailed because they are not appropriate to the purpose and mission of Harpers Ferry National Historical Park. These activities included water play in the rivers, at-large picnicking on national historical park grounds, and informal sports such as playing ball.

Complaints from visitors are relatively few, but most revolve around problems in way-finding to and around the national historical park. Some visitors find it unclear how to enter the national historical park from U.S. 340 and, once in Lower Town, have difficulty locating the information center. A smaller number of complaints are received about the number of closed shops and restaurants during the off-season.

ORIENTATION AND WAYFINDING

The common pattern is for visitors to enter the national historical park at the Cavalier Heights entrance. Here, they can enter the information center to receive initial orientation and then board the shuttle bus. On the bus ride visitors receive a 5-minute recorded interpretive message. The bus lets visitors off at the bus pavilion in Lower Town.

Once in Lower Town, visitors may see the historic buildings on their own, but are encouraged to visit the information center first to get an overall orientation to the national historical park's history. First-time visitors may be at a loss of where to go because it is not clear where the information center is. Visitors are also able to drive straight to Lower Town and begin their visit there. Information on the outlying Civil War locations is provided to visitors upon inquiry at the contact station and information center. There is no public transportation to the outlying areas.

Visitors interact primarily with NPS personnel at three staffed stations — the NPS entrance station, Cavalier Heights visitor information/ contact station, and the information center in Lower Town. There are also interpreters and maintenance workers occasionally on the streets or in the buildings to answer questions.

INTERPRETATION AND EDUCATION

Interpretation and resource education is received primarily through self-guided walks among the historic structures and settings. Wayside exhibits and brochures deliver the messages. Many NPS buildings in Lower Town contain in-depth interpretation on the national historical park's themes. Personal orientation and interpretive services can be obtained at the visitor contact facility and during interpretive presentations. At the visitor information center in Lower Town, the broad outlines of the Harpers Ferry “town in history” story are established. Branch museums amplify key aspects of the broad story (e.g. John Brown, the Federal Armory, etc.). The national historical park brochure provides basic information about the park, maps to help visitors find opportunities and services, and a general historical overview of park interpretive themes.

According to the 1986 "Statement for Management," approximately 24% of visitors attend interpretive programs, with the

remaining number obtaining information and interpretation from nonpersonal sources such as brochures and interpretive displays.

Harpers Ferry National Historical Park offers a variety of educational programs designed to teach students of all ages about the cultural and natural resources at the park. These programs have been developed to enhance classroom instruction. School groups participating in class outings or education trips account for much of the visitation in the spring. Groups are encouraged to make reservations, but many arrive at the national historical park unannounced, creating congestion.

Teachers and educators planning a field trip are encouraged to access the national historical park's *Online Educator's Guide* where they can obtain information on program guidelines, choices for ranger-guided programs, opportunities for self-guided programs, and how to make program reservations.

SOCIOECONOMIC ENVIRONMENT

This section summarizes the detailed socioeconomic baseline, describing the demographic, economic, and governmental trends in the communities adjacent to Harpers Ferry National Historical Park. The descriptions are relevant to the evaluation of the social impact assessment and financial implications of the alternatives that have been developed for this plan. The complete analysis is detailed in appendix E.

GROWTH: A REGIONAL PERSPECTIVE

To understand the pressures on the local communities that are directly influenced by Harpers Ferry National Historical Park, a broad look at the region must be taken. It is the regional trends and the movement of urbanization toward the once rural areas which contribute to changing demographics of the neighbors and the users of the national historical park.

Regional Population

The tri-state region, long important for agricultural production, is now growing steadily influenced by development along the I-81 and I-70 transportation corridors. These transportation conduits have become convenient locations for a variety of light manufacturing and service industries, and as a "bedroom community" for major metropolitan areas.

Since 2000 the eastern panhandle, which is comprised of Jefferson, Berkeley, and Morgan Counties, had an annual population growth rate of 3.2%. The growth far exceeds the rates for West Virginia (0.1%) and United States (1.0%).

Once dependent on the rural life, the populations of these three counties in the eastern panhandle now have a portion of their economic roots in the major urban centers, including those as far away as Washington, D.C., Arlington, Virginia; and Baltimore, Maryland. The trend for this region is continued growth as more of the urban population moves into the eastern panhandle. This migration will result in additional local jobs as well as residents looking to commute to employment in the major urban centers.

Improved highways and commuter rail service are increasing the opportunities for residents to live locally and work regionally. Given the lowest inflation rates in West Virginia, and Jefferson County's proximity to metropolitan Washington, D.C., and Baltimore, Maryland, more than 50% of Jefferson County's workforce commutes out of the county to their workplace.

Because the eastern panhandle region is near many of the fastest growing counties in the United States, it has also become one of the fastest growing regions in West Virginia. Harpers Ferry National Historical Park is in Jefferson County, the fastest growing county in West Virginia, with 9.6% annual growth. The national historical park is adjacent to Loudoun County, Virginia, which the U.S. Census Bureau has ranked as the second fastest growing county in the United States. From 2001 to 2003, Loudoun County had a population growth of 30.7 %. Two other Virginia counties (near Washington, D.C.) were ranked high for population growth Stafford (9th) and Spots1vania (13th).

Regional Employment

The West Virginia bureau of business and economic research reports that from 1998 to 2003 the average annual job growth rate for the eastern panhandle was 1.6% and exceeded the rates for West Virginia (0.2%) and the

United States (0.6%). The employment structure of this region is not nearly as concentrated in natural resources and mining as it is for much of West Virginia.

The largest employment industry in the eastern panhandle region is *government,* with 23.3 % of all jobs. The concentration of federal jobs in the region reflects its proximity to Washington, D.C., and the location of large federal employers (Veterans Administration Center, U.S. Department of Treasury (IRS), U.S. Coast Guard, and National Park Service). The *trade, transportation, and utilities* industries (18.7 %) follow, with the distribution facilities of General Motors and other major corporations. The next largest industry is *leisure and hospitality,* providing 12.9 % of the area's employment, which reflects the presence of parks, resorts, spas, and gaming activity in the region (including Charles Town Races).

Manufacturing is another major industry in the region that provides for 9.3% employment; these businesses produce industrial machinery, wood products such as furniture, and rubber and plastic products, among others. However, while the other industries described above have increased employment, the manufacturing sector has seen a steady decline.

Decisions made by the fast-growing counties, such as Loudoun County, West Virginia, and Frederick County, Maryland, will continue to influence the growth and employment in the eastern panhandle region of West Virginia. As described in the *Jefferson County Comprehensive Plan* 2004 (JCCP), the county is a viable residential option within a reasonable commute of major economic centers. Jefferson County enjoys significantly lower housing costs and property taxes than in nearby states. The county's natural environment and smaller population also makes it an attractive place to live.

Urban growth and changing social demographics from major metropolitan areas, such as Washington D.C., will continue along the primary transportation corridors heading toward the gateway communities of Harpers Ferry National Historical Park. This growth will bring new opportunities and problems to a changing rural community with more diverse demands on open spaces and greater urban influences to the national historical park.

COUNTY INFLUENCE

Portions of the national historical park are in three counties — Jefferson County, West Virginia; Loudoun County, Virginia; and Washington County, Maryland, but the NPS headquarters and most visitation occurs in Jefferson County, West Virginia.

The national historical park is adjacent to the fastest growing county in the nation (Loudoun County, Virginia, 30.7 % annual growth last year) and is in the fasting growing county in West Virginia (Jefferson County, West Virginia, 9.6%).

As population in the three counties continues to grow, housing and commercial construction is thriving.

Jefferson County, West Virginia

The national historical park is on the eastern border of Jefferson County, West Virginia. The county is adjacent to the Blue Ridge Mountains at the confluence of two major rivers. The county is bordered on the northwest by Berkeley County, West Virginia, on the northeast by the Potomac River and Washington County, Maryland; to the southeast by the Blue Ridge Mountains and Loudoun County, Virginia, and to the southwest by Clarke County, Virginia.

Jefferson County is one of the most agriculturally productive counties in West Virginia. The total land area in the county is approximately 212.41 square miles. The

county is about 58 miles from Washington, D.C., and 67 miles from Baltimore, Maryland.

Jefferson County contains five incorporated municipalities: Bolivar, Charles Town (county seat), Harpers Ferry, Ranson, and Shepherdstown, many of which are considered bedroom communities for the greater Washington, D.C., area. Since the 1960s the trend has been that population growth in the incorporated municipalities has remained stable, while substantial increases in population growth have occurred in unincorporated areas of the county. This resulted in land use changes from agriculture to suburban style developments with larger lots. The rapid residential development of formerly open or agricultural land has caused numerous issues for Jefferson County. These issues are similar to other areas where outpaced growth has resulted in: (1) inadequate road and highway systems that were not designed to accommodate the large volume of residential and commercial traffic, (2) concerns about appropriate wastewater treatment, (3) increased demands for clean water, (4) encroachment on public parks and scenic viewsheds from new developments, and (5) a changing community character.

The U.S. Census Bureau estimates that the population of Jefferson County was 43,545 in 2001. The population grew by 17.4% from 1990 to 2000. The median household income in 1999 was $44,374 in the county. The average income per capita was $20,441 and the number of persons living below the poverty level was 10.3%. Statewide in West Virginia, the average income per capita was $16,477 with 17.9% of the population living below the poverty level (Census Bureau 2003).

The economy of Jefferson County (based on number of employees) depends on retail trade, manufacturing, lodging and food services, and arts/entertainment/ recreation (Census Bureau 2003). Lodging and food services are related to tourism.

Today, the 10 largest employers in Jefferson County are associated with health care, education, historic preservation, manufacturing, human services and retail.

- PNGI Charles Town Gaming
- Jefferson County Board of Education
- Shepherd College
- AB&C Group, Inc
- Jefferson Memorial Hospital
- Wal-Mart Stores, Inc
- National Park Service
- Royal Vendors, Inc
- Augmentation, Inc
- Genesis Eldercare Network Services

Loudoun County, Virginia

The U.S. Census Bureau estimates that the population of Loudoun County was 190,903 in 2001. The population grew by 96.8% from 1990 to 2000. The median household income in 1999 was $80,648. The average income per capita was $33,530, and the number of people living below the poverty level was only 2.8%. In Virginia the average income per capita was $23,975 with 9.6% of the population living below the poverty level (Census Bureau 2003).

The economy of the county (based on number of employees) relies on the retail trade, construction, professional and technical services, and transportation/ warehousing (Census Bureau 2003).

Washington County, Maryland

The U.S. Census Bureau estimates that the population of Washington County was 133,197 in 2001. The population grew by 8.7% from 1990 to 2000 (Census Bureau 2003). The median household income in 1999 was $40,617. The average income per capita was $20,062, and the number of people living below the poverty level was 9.5%. Statewide in Maryland the average income per capita was $25,614 with 8.5% of the population living below the poverty level (Census Bureau 2003).

The economy of the county (based on number of employees is based on manufacturing, retail trade, health and social services, and finance/insurance (Census Bureau 2003).

GATEWAY COMMUNITIES

For purposes of this plan, the focus is on the national historical park's gateway communities, which consist of the incorporated towns of Bolivar and Harpers Ferry, West Virginia.

The ability to harness the power of the two rivers for economic development was the foundation of these two West Virginia towns. Today, the rivers continue to contribute to the economic and social activities of the two communities, although more for their aesthetic, recreational, and quality of life values than the water power for industry.

The role that both towns played in American history does not compare to the size of these communities. Harpers Ferry is 0.6 square mile, and Bolivar is 0.5 square mile in size. Land access to the two communities is from U.S. 340, connecting with Interstate 70 at Frederick, Maryland, and then crossing the Potomac River in Virginia and entering Harpers Ferry at the Shenandoah River, and then through Bolivar and south to Charles Town and beyond.

Town of Bolivar, West Virginia

Bolivar, West Virginia, is a town with a population of 1,045 residents. It is a community that benefits from the quality-of-life attributes from open spaces, scenic vistas, flowing rivers, and historic ties to early America. It is a town whose land use is dominated by housing and surrounded by farms and forests. Its local economy consists of a family medical center, junior high school and scattered small businesses along the main streets such as antique stores, restaurants and bars. Although Bolivar, West Virginia is one of the major gateways to Harpers Ferry National Historical Park, the majority of residents are not dependent upon the tourism industry to survive.

Community Characteristics. The town of Bolivar, West Virginia population increased by about 50% during the 1980s and then slowed throughout the next 10 years resulting in a 3% increase between 1990 and 2000. Today, the town has limited space to allow for any large-scale increase in housing and other kinds of developments and therefore the future population of Bolivar is expected to remain relatively stable.

Bolivar is a community where 90% of the residents are Caucasians and the median age is 39 years of age. The majority of the population is within the age groups associated with "the earning years." Children of school age and younger make up 22% of the population and retirees account for 17%. This representation of all ages indicates a need for a range of outdoor recreational opportunities that includes open spaces for organized field games and playgrounds, natural settings for passive recreation such as reflection and walking, and more active outdoor pursuits such as trail use, river rafting and fishing.

The 1999 median household income for Bolivar was $42,375. This is $10,000 less than the neighboring town of Harpers Ferry but similar to Jefferson County as a whole. Based on the 2000 Census, 14% of Bolivar's households were classified as "high income," 66% of households were considered "middle income," and 20% were classified as "low income." The 2000 census also estimated a 12.5% poverty rate in Bolivar, a rate which has remained constant since the 1990 survey.

In Bolivar, the educational attainment reported by the 2000 Census reflects the same trends reported for Jefferson County, West Virginia. Of Bolivar's population age 25 and older, the percentage of residents that did not graduate from high school is 23%. This represents an 11% decrease from 1990 when 35% of the residents did not graduate from high school. The percentage of residents who

obtained college or advanced degrees was 22%.

Employment. The 2000 Census estimated that 95% of Bolivar's residents who participate in the workforce held jobs outside the community. Of which 55% of those were located outside of West Virginia while 39% worked within Jefferson County. This trend is also reflected in the travel time it takes going one way to work for which 53% of the residents have commutes that are over 30 minutes (of which, 32% had one-way commutes longer that 45 minutes) contrasted with only 13% of residents who arrive at work in less than 10 minutes. Although Bolivar, West Virginia, is adjacent to the Harpers Ferry National Historical Park, the majority (approximately 77% of the workforce) of its residents support themselves working in industries that are not dependent upon tourism. The educational and health industries employ 19% of Bolivar's workforce. Other industries that employ a large share of Bolivar's residents are construction (11%), manufacturing (9%), professional, scientific, management, administrative (10%), and public administration (8%). The two industries that best reflect employment that would contribute to the tourism economy and provides jobs for Bolivar's residents are retail (19% of jobs) and arts, entertainment, recreation, accommodation and food service (8% of jobs).

Town of Harpers Ferry, West Virginia

Harpers Ferry is the focal point of historic tourism in Jefferson County and an important component of the local economy. The town consists of "Lower Town," a commercial district that is adjacent to primary attractions of the national historical park. Residential neighborhoods are mixed with guest houses, hotels, small businesses, park sites, and four other NPS entities — Harpers Ferry Center, the Steven T. Mather Training Center, Appalachian National Scenic Trail, and the Potomac Heritage National Scenic Trail. A major freight and passenger railroad line travels through the town and includes a functioning railroad station for Amtrak and commuter trains. The town owns and operates its own municipal waterworks, police department, and a volunteer fire department.

Community Characteristics. The town of Harpers Ferry, West Virginia, has a population of 307 residents. Between 1980 and the 1990 census, the town saw a 15% decrease in their residential population. With limitations in the ability to grow or increase density, the population is expected to remain stable at its 15-year low into the foreseeable future. Although remaining stable in size, the demographics of the population are changing.

Harpers Ferry is a community that is growing older than the neighboring community of Bolivar, West Virginia. The median age of Harpers Ferry's residents is 47 years. Since 1990, the number of residents in the age group of 45 to 59 year olds has increased 6% along with a slight increase in the number of retirees. Meanwhile, Harpers Ferry saw a measurable decline in the number of school age children and of resident's ages 20 to 24 years.

Today, residents are better educated. Only 9% of residents over 25 years of age did not graduate from high school compared to 23% in 1990. The percentage of residents that have a college or advanced degree was 60% in 2000 compared with only 39% in 1990. The median household income in Harpers Ferry, West Virginia and Bolivar, West Virginia was nearly equal in 1980. Over the next two decades Harpers Ferry has become a more wealthy community than its neighbor as reflected in the 1999 median household income of $52,344 reported by the U.S. Census. This amount is $10,000 greater than reported for the median income for Bolivar, West Virginia. Also based upon the 2000 Census, 30% of the households had "high income", while 59% were reported to fall within the "middle income" range and 11% were classified as "low income". The 2000 Census estimated a 2.2% poverty rate for

Harpers Ferry residents, which is a decline of 4% from the reported 6.4% in 1990.

Employment. The 2000 Census estimated that 34% of Harpers Ferry's residents who participate in the workforce had jobs located within the community. In contrast, only 5% of Bolivar's residents held jobs within their community. Of the 66% of Harpers Ferry residents who worked outside the community, 48% have employment outside of West Virginia. This trend is reflected in the one-way commute time to work for which 44% of the workforce travels more than 30 minutes (of which 29% of commutes are longer than 45 minutes) and contrasts with 23% of residents that arrive at work in less than 10 minutes.

The educational and health industry provides employment to 26% of Harpers Ferry residents who participate in the workforce. Retail and arts, entertainment, recreation, accommodation and food service are the two industries that are most dependent on a tourism economy and which employs 29% of residents. Other major industries that provide employment to Harper Ferry's residents are: information (10%), professional, scientific, management, administrative (9%), public administration (8%), and construction (8%).

THE NATIONAL HISTORICAL PARK'S EFFECT ON LOCAL AND REGIONAL ECONOMY

Economic impact analysis provides another way to quantify the relationships between Harpers Ferry National Historical Park and the adjacent communities. The national historical park is an economic generator that helps to anchor the economy within the gateway community while contributing regionally. The national historical park's economic influence extends throughout the eastern panhandle of West Virginia and to communities in the states of Maryland and Virginia. There are numerous ways that the operations and management of Harpers Ferry National Historical Park influence the local economy. This section examines the national historical park's influences on the economy through visitation, budget, and contribution to infrastructure, and then highlights economic indicators for the commercial district of Harpers Ferry.

Each year hundreds of thousands of visitors are attracted to Harpers Ferry National Historical Park. An average annual visitation of 305,472 visitors (based on visitation between 1999 and 2003) affects the economy by money spent on meals, lodging, fuel, and other purchases that contribute millions of dollars yearly to the local economy and produce sales, tax, and employment benefits. The national historical park also contributes millions of dollars annually that flows directly and indirectly through the local and regional economy. Also, the National Park Service supports some of the local community infrastructures with financial contributions to fire service and improvements to water/sewer systems.

The National Park Service also operates the Mather Training Center, the Harpers Ferry Center, the Potomac Heritage National Scenic Trail, and the Appalachian National Scenic Trail from Harpers Ferry. In 1996 a study was completed that reviewed the cumulative economic impacts of all five NPS operations. The study reports that the direct expenditures from the NPS operations and visitors totaled $18.5 million. Of this amount, 66% of the total ($12.2 million) was spent in West Virginia, 30% in Maryland, and 4% in Virginia. The local and state tax benefits in West Virginia were estimated to contribute $1.3 million, $0.7 million in Maryland, and $0.07 million in Virginia (Rae 1996). Although these NPS institutions contribute to the local and regional economy, the general management plan focuses its attention only on actions related to the proposed alternatives for the national historical park.

VISITOR SPENDING

This section estimates the economic influence that visitors to Harpers Ferry National Historical Park might have on the local economy. The following analysis uses an economic impact framework to quantify the direct and indirect expenditures by visitors using data from the year 2001. This economic impact analysis traces the flow of spending by visitors within the local economy to estimate the national historical park's contribution to sales, income, and jobs in the area. A detailed description of this analysis is described in appendix E.

To measure the effects of visitor spending on the local economy the National Park Service developed an economic impact model referred to as the Money Generation Model 2. This model estimates the economic impacts by measuring sales (values of goods and services), tax, and employment benefits. The model's logic is that Harpers Ferry National Historical Park is part of the local economy. When visitors from outside the local area spend money within the local area for meals, lodging, and other goods and services, this expenditure provides an economic stimulus to the local economy. In this analysis, visitor spending only covers economic effects on the local area around the national historical park. The economic modeling does not include impacts of the NPS operations/employees, construction activity, or visitor spending outside the local area.

Harpers Ferry National Historical Park hosted 264,470 recreational visits in 2003. Of all these recreational visits, 20% were local residents on day trips, 55% were visitors on day trips from outside the local area, 20% were visitors on overnight trips staying in local lodging, and 5% were camping. The 0.26 million recreational visits represent 0.13 million party days (number of days a party of visitors spend in the area) in the local area (days are equated to nights for overnight trips). On average, visitors spent $89 per party per day in the local area. Total visitor spending was $11.65 million in 2003 (table 11).

The direct effects of this spending cover sales, income, and jobs in businesses selling goods and services directly to visitors. The direct effect of the $11.65 million spent by visitors to Harpers Ferry National Historical Park was $9.64 million in sales, $3.47 million in personal income (wages and salaries), $5.21 million in value added, and 230 jobs. The largest direct effect was $3.31 million in the hotel sector, $2.73 million in food and drinking places, $1.25 million in amusements, and $1.38 million in retail trade. As visitor spending circulates through the local economy, secondary effects created an additional $1.59 million in personal income and 60 jobs (table 12).

In sum, visitors to Harpers Ferry NHP spent $11.65 million dollars in 2003, which supported a total of $14.02 million in sales, $5.06 million in personal income, 290 jobs, and $ 7.96 million in value added.

TABLE 11. VISITS AND SPENDING BY VISITOR SEGMENT (2003)

	Local Day Trips	Non-local Day Trips	Hotel	Camp	Total
Recreation Visits	52,896	145,463	52,896	13,224	264,478
Segment Shares in Rec. Visits	20%	55%	20%	5%	100%
Party Days	21,159	58,186	42,317	10,597	132,256
Avg. Spending Per Party Day	$37	$56	$166	$59	$89
Total Spending (millions)	$0.77	$3.24	$7.02	$0.62	$11.65

TABLE 12. ECONOMIC IMPACTS OF VISITOR SPENDING BY SECTOR (2003)

Sectors	Sales (millions)	Personal Incomes (millions)	Jobs	Value Added (millions)
Direct Effects				
Motel, Hotel, B&B and Cabins	$3.31	$1.08	70	$1.64
Campsites	$0.15	$0.05	4	$0.07
Restaurants & Bars	$2.73	$0.93	75	$1.29
Admissions & Fees	$1.25	$0.43	36	$0.71
Retail	$1.38	$0.70	37	$1.10
Others	$9.63	$3.47	11	$5.21
Total	$9.64	$3.47	230	$5.21
Secondary Effects	$4.38	$1.59	60	$2.74
Total Effects	$14.02	$5.06	290	$7.96

LOCAL NATIONAL HISTORICAL PARK EXPENDITURES

Revenues originating from outside the local economy are annually funneled into the gateway communities through the federal appropriations process. This process is what finances Harpers Ferry National Historical Park's operation/maintenance budget and capital improvements to national historical park resources and infrastructure. A large share of the national historical park's budget provides an annual and stable economic benefit to the local and regional economy.

As with visitor expenditures described above, local national historical park expenditures have direct and secondary economic benefits. Table 13 displays the national historical park's annual expenditures for Fiscal Year (FY) 1999 through Fiscal Year 2004. The operations and maintenance budget has grown annually but at varied rates of growth ranging anywhere from 0.24% to 10%. The capital improvement budget, which is used for restoration, archeological work, and other one-time improvements, can vary substantially from year to year.

Personnel expenditures constitute the most (approximately 85%) of the national historical park's operation and maintenance budget. These expenditures have the most direct impact on local and regional communities as NPS employees spend a majority of their earnings for living, recreation, education and other daily expenses that support the local businesses and institutions. Table 14 identifies salaries of employees by the communities in which they reside and estimates the amount

TABLE 13. ANNUAL EXPENDITURES FOR FY 1999 TO FY 2004 FOR HARPERS FERRY NATIONAL HISTORICAL PARK

Fiscal Year	FY 2000	FY 2001	FY 2002	FY 2003	FY2004
Operations and Maintenance	$4,982,900	$5,525,000	$5,675,900	$5,689,900	$5,831,393
Capital Improvements	$249,741	$2,039,831	$2,840,782	$2,548,437	$4,306,124
Total Expenditures	$5,232,641	$7,564,831	$8,516,682	$8,238,337	$10,137,517

Source: Harpers Ferry National Historical Park

TABLE 14. FY 2004 ACCUMULATIVE GROSS ANNUAL SALARIES OF EMPLOYEES AT HARPERS FERRY NATIONAL HISTORICAL PARK BY COMMUNITIES IN WHICH THEY RESIDE

Residence of Employees	Gross Annual Salaries	Estimated 60% Used Locally
Berkeley County's WV Communities	$611,709	$367,025
Bolivar & Harpers Ferry	$1,490,010	$894,006
Jefferson County, WV Communities other than the towns of Bolivar and Harpers Ferry	$955,620	$597,372
Maryland, state of (communities)	$940,749	$564,449
Pennsylvania, state of (communities)	$102,336	$61,402
Virginia, state of (communities)	$96,575	$57,945

that was spent locally during FY 2004. The estimated local expenditures were based upon the Douglas Rae 1999 report where he estimated that 60% of the employee's gross salaries/benefits were spent in local communities.

The national historical park budget also includes monies for supplies and equipment, services, transportation and utilities. The Douglas Rae 1999 report estimated that 75% of supplies/equipment and services and 100% of utilities were spent in local or regional businesses. Again, based upon Douglas Rae factors, it is estimated that for FY 2004 this amounted to approximately $656,032 spent by the national historical park within the local economy.

The Rae report also suggests that the indirect impacts of NPS spending can be summarized that for every dollar spent by the national historical park generates an additional $0.68 in spending by others, and the employment multiplier is 34 jobs per million dollars in spending.

CONTRIBUTION TO INFRASTRUCTURE

The presence of a large tract of public lands in an area that is quickly becoming urbanized contributes to the quality of life for residents in the eastern panhandle. As a large neighbor to both Harpers Ferry and Bolivar, Harpers Ferry National Historical Park continues to support the local communities in ways that are beyond the routine payment of utilities. This section highlights some of the larger contributions from the national historical park.

In addition to annual spending, Harpers Ferry National Historical Park also contributes directly to specific infrastructure needs of the town of Harpers Ferry and Bolivar, West Virginia. The following is a summary of these community benefits:

Harpers Ferry National Historical Park provides annual financial support to the Harpers Ferry Police Department. In FY 2004 the financial support totaled $82,000. NPS rangers also back up Harpers Ferry Police, Jefferson County Sheriff, and West Virginia State Police.

Similar to other local government entities, Harpers Ferry National Historical Park provides annual financial contribution to the all volunteer Friendship Fire Department with FY2004 support of $4,000. NPS employees are also trained and used for emergency service work in the local communities and Jefferson County.

Throughout the national historical park's history, it has helped fund improvements to the Harpers Ferry-Bolivar sewer and water systems with a cumulative support of

$2,607,000 in addition to regular utilities payments.

Harpers Ferry National Historical Park also helps support job training programs such as the Youth Citizens Conservation Corps of West Virginia with a financial support of $90,794 in FY 2004 and a free training experience for AmeriCorp annually.

Harpers Ferry National Historical Park helps the towns of Bolivar and Harpers Ferry with some snow plowing of city streets after winter storms.

HARPERS FERRY COMMERCIAL DISTRICT ECONOMIC INDICATORS

The primary commercial district of Harpers Ferry is adjacent to and blends with the historical landscape of the national historical park. The commercial area is within a designated historic district. The services that are available, whether they are retail, museum, or food and drink, provide national historical park visitors with additional features to explore and enjoy. The boundaries between the national historical park and the town's historic district are seamless to visitors.

The Harpers Ferry Merchant Association and the Harpers Ferry Main Street are two local organizations that focus on issues related to the commercial district. A vision for the commercial district as presented by Harpers Ferry Main Street is an environment that is economically viable while providing a livable community where residents and visitors can safely enjoy the pristine natural and cultural resources of this unique historic town.

The preservation of the historic fabric of Harpers Ferry is guided by the Harpers Ferry Historic District, local business organizations, The National Trust, and the West Virginia Historic Preservation Office. Together, these organizations view their niche as part of heritage tourism, where opportunities are provided to not only see history but have hands-on and sensory experiences.

The Harpers Ferry Main Street program measures its success on the community's ability to ensure that the quality of life attributes can be achieved and maintained for local residents and workers while providing a quality experience for visitors. The organization has developed 11 market performance indicators that allow them to annually monitor the success of achieving economic and livability goals.

NPS OPERATIONS

Harpers Ferry National Historical Park has a staff of about 106 permanent employees. This staff accommodates more than a quarter-million visitors a year while managing 3,645 acres of park lands, 80 actively used buildings, roads, trails, a shuttle bus fleet, and extensive natural areas. There are four other NPS units using the national historical park's land or facilities — Chesapeake and Ohio Canal National Historical Park, Appalachian National Scenic Trail, Harpers Ferry Center, and the Mather Training Center. The national historical park's base budget in Fiscal Year 2004 was $5,737,000. One-time investments (e.g., major repair or construction projects) are financed through project money that is allocated to parks on a competitive basis and is in addition to base budget.

NPS staff is assisted by seasonal employees, volunteers, and the Harpers Ferry Natural History Association. NPS operations can be divided into the following functions:

- cultural and natural resource management
- visitor and resource protection (law enforcement)
- visitor experience and enjoyment
- facility operations and maintenance
- management and administration

Park headquarters is in the Morrell House on Camp Hill. Other park management staff is in the Bracket House. The interiors of these historic houses have been retrofitted to accommodate this use. Additional staff is in offices in the upper floors of buildings in Lower Town, in Grandview School, and at the maintenance facility.

Streets in Lower Town are not owned by the National Park Service, and conflicts arise between business owners who want the streets open and the National Park Service wanting to create an accurate living history environment. Public parking is limited, especially on weekdays when commuters fill the train station lot.

The park maintenance facility is in a residential section of Harpers Ferry town. The National Park Service owns and operates the transportation system of six buses and a bus maintenance facility on Cavalier Heights. The buses shuttle visitors between Cavalier Heights and Lower Town and include an interpretive message. The fleet was replaced with all new vehicles in 2004.

A business plan for the national historical park was prepared in 2002. This plan calculated actual costs to run the national historical park and determined that the park is under-funded by roughly 36% (in FY 2002). In light of the funding shortfalls, the Harpers Ferry's park management team has identified a number of strategies to reduce costs and increase available funding. This plan is currently being implemented.

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The National Environmental Policy Act (NEPA) requires that environmental documents discuss the environmental impacts of a proposed federal action, feasible alternatives to that action, and any adverse environmental effects that cannot be avoided if a proposed action is implemented. In this case the proposed federal action would be the adoption of a general management plan for Harpers Ferry National Historical Park. The following portion of this document analyzes the environmental impacts of implementing the alternatives on cultural resources, natural resources, the visitor experience, and the socioeconomic environment. The analysis is the basis for comparing the beneficial and adverse effects of implementing the alternatives.

Because of the general, conceptual nature of the actions described in the alternatives, the impacts of these actions are analyzed in general qualitative terms. Thus, this environmental impact statement should be considered a programmatic analysis. If and when site-specific developments or other actions are proposed for implementation subsequent to this *General Management Plan*, appropriate detailed environmental and cultural compliance documentation will be prepared in accord with the National Environmental Policy Act and National Historic Preservation Act requirements.

This chapter begins with a description of the methods and assumptions used for each topic. Impact analysis discussions are organized by alternative and then by impact topic under each alternative.

Each alternative discussion also describes cumulative impacts and presents a conclusion. At the end of the chapter there is a brief discussion of unavoidable adverse impacts; irreversible and irretrievable commitments of resources; and the relationship of short-term uses of the environment and the maintenance and enhancement of long-term productivity. The impacts of each alternative are briefly summarized in the table at the end of the "Alternatives, Including the Preferred Alternative" chapter.

METHODS AND ASSUMPTIONS FOR ANALYZING IMPACTS

The planning team based the impact analysis and the conclusions in this chapter on the review of existing literature and studies, information provided by experts in the National Park Service and other agencies, NPS staff insights, and professional judgment. The team's method of analyzing impacts is further explained below. It is important to remember that all the impacts have been assessed assuming mitigating measures have been implemented to minimize or avoid impacts. If mitigating measures described in the "Alternatives Including the Preferred Alternative" chapter were not applied, the potential for resource impacts and the magnitude of those impacts would increase.

Director's Order 12, "Conservation Planning, Environmental Impact Analysis, and Decision Making," presents an approach to identifying the duration (short or long term), type (adverse or beneficial), and intensity or magnitude (e.g., negligible, minor, moderate, or major) of the impact(s), and that approach has been used in this document. Direct and indirect effects caused by an action were considered in the analysis. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by the action and occur later in time or farther removed from the place, but are still reasonably foreseeable. Impacts are also analyzed in terms of context or the area of consideration. In this document the context is assumed to be local unless otherwise noted.

The impacts of the action alternatives describe the *difference between* implementing the no-action alternative and implementing the action alternatives. To understand a complete "picture" of the impacts of implementing any of the action alternatives, the reader must also take into consideration the impacts that would occur under the no-action alternative.

Duration of Impacts

Duration of an action's impact is defined by the time a readily discernible effect would occur while taking into consideration such factors as revegetation times and the relative level of development in the area (e.g., impacts on visitor experience from new construction in an urban environment would cease as soon as construction was completed). Short-term impacts on the natural environment would last during construction activity and the period of revegetation — typically 1 to 1 ½ years in this climate. Long-term impacts would be those that occur longer than 1 ½ years.

Location

If the effects would differ, they are described separately for each location within the national historical park.

CULTURAL RESOURCES

Cultural Resources Listed or Eligible to Be Listed in the National Register of Historic Places

Potential impacts on cultural resources (archeological resources, prehistoric or historic structures, and cultural landscapes) either listed in or eligible to be listed in the National Register of Historic Places were identified and evaluated in accordance with the Advisory Council on Historic Preservation's regulations implementing Section 106 of the National Historic Preservation Act (36 CFR 800, *Protection of Historic Properties*): by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that are National Register listed or eligible; (3) applying the criteria of adverse effect to affected resources; and (4) considering ways to avoid, minimize or mitigate adverse effects.

Under the Advisory Council's regulations a determination of *adverse effect* or *no adverse effect* must be made for affected National Register listed or eligible cultural resources. An *adverse effect* occurs whenever an action alters, directly or indirectly, any of the characteristics of a cultural resource that qualify it for inclusion in the National Register, i.e., diminishing the integrity (the extent to which a resource retains its historic appearance) of its location, design, setting, materials, workmanship, feeling, or association. Adverse effects also include reasonably foreseeable effects caused by the alternatives that would occur later in time, be farther removed in distance or be cumulative (36 CFR 800.5(a)(1)).

A determination of *no adverse effect* means there is an effect, but the effect would not meet the criteria of an adverse effect (36 CFR 800.5(b)).

Thus, the criteria for characterizing the severity or intensity of impacts to National Register listed or eligible archeological resources, prehistoric or historic structures and cultural landscapes are the §106 determinations of effect: *adverse effect* or *no adverse effect*.

NATURAL RESOURCES

Analysis of natural resources was based on research, knowledge of existing resources, and the best professional judgment of planners, biologists, hydrologists, and

botanists who have experience with similar types of projects. Information on the national historical park's natural resources was gathered from several sources. As appropriate, additional sources of data are identified under each topic heading.

Where possible, map locations of sensitive resources were compared with the locations of proposed developments and modifications. Predictions about short-term and long-term site impacts were based on previous studies of visitor and facilities development impacts on natural resources.

The definitions below assume that mitigation would be implemented. For this document, the planning team qualitatively evaluated the impact intensity for natural resources, as follows:

Water Resources

For the most part, potential impacts of actions comprising the alternatives cannot be defined relative to site-specific locations. Consequently, water quality impacts of the alternatives were assessed qualitatively.

Negligible — an action may have an effect on water quality or the timing or intensity of flows, but it would not be readily measurable or detectable.

Minor — an action would have measurable effects on water quality or the timing or intensity of flows. Water quality effects could include increased or decreased loads of sediment, debris, chemical or toxic substances, or pathogenic organisms.

Moderate — an action would have clearly detectable effects on water quality or the timing or intensity of flows and potentially would affect organisms or natural ecological processes. Alternatively, an impact would be visible to visitors.

Major — an action would have substantial effects on water quality or the timing or intensity of flows and potentially would affect organisms or natural ecological processes. Alternatively, an impact would be easily visible to visitors.

Floodplains

The impact assessment for floodplains is focused on natural stream processes, historic records, and predicted flooding potential and frequency. The *Floodplain Management Guideline* (NPS 1993b) and the extent of alteration to natural river processes were used to define the intensity of impacts.

Negligible — Impacts would occur outside the regulatory floodplain as defined by the *Floodplain Management Guideline* (100-year or 500-year floodplain, depending on the type of action), or no measurable or perceptible change in natural river processes or aquatic habitat would occur.

Minor — Actions within the regulatory floodplain would potentially interfere with or improve river processes or aquatic habitat in a limited way or in a localized area. Levee maintenance and stream bank manipulations that would protect development areas from flooding are examples of actions that would result in minor adverse impacts. Removing flood protection devices or small facilities would result in beneficial impacts.

Moderate — Actions within the regulatory floodplain would interfere with or enhance river processes or aquatic habitat appreciably or in a large area. An example of an adverse moderate impact would include substantial modification of stream banks to protect roads or structures.

Major — An action would permanently alter or improve a floodplain or substantially alter or improve natural river processes or aquatic habitat. An example might include permanent hardening and/or relocation of a braided river channel that prevents the river from meandering over time.

Soils

Predictions about site impacts were based on knowledge of impacts on natural resources from development of visitor and operations facilities under similar situations. The following categories were used to evaluate the potential impacts on soils:

Negligible — the impact on soil resources would not be measurable. Any effects on productivity or erosion potential would be slight.

Minor — an action would change a soil's profile in a relatively small area, but it would not appreciably increase the potential for erosion of additional soil.

Moderate — an action would result in a change in quantity or alteration of the topsoil, overall biological productivity, or the potential for erosion to remove small quantities of additional soil. Changes to localized ecological processes would be of limited extent.

Major — an action would result in a change in the potential for erosion to remove large quantities of additional soil or in alterations to topsoil and overall biological productivity in a relatively large area. Important ecological processes would be altered, and landscape-level changes would be expected.

Cave and Karst Resources

Information on potential impacts to caves and karst features was gathered from effects of past actions and analysis by subject matter experts. The following definitions were used to qualify the severity of impacts from implementing the alternatives.

Negligible —Effects of an action on caves or karst features may occur but would not be measurable and would be confined to a relatively small area.

Minor — the effects on caves or karst features would be detectable but slight, and the area affected would be small.

Moderate — the effects on caves or karst features would be readily apparent and slightly change the characteristics or features over a relatively large cave or karstic system.

Major — the effect on caves or karst features would be readily apparent and would substantially change the geologic, hydrologic, or ecologic characteristics over a large area in and out of the national historical park.

Vegetation

Impacts were assessed qualitatively. Site-specific information was gleaned from general documents such as resource management plan and results of national historical park surveys. Predictions about impacts were based on previous studies of visitor and facilities development impacts on natural resources.

Negligible — the impact on vegetation (individuals and/or communities) would not be measurable. The abundance or distribution of individuals would not be affected or would be slightly affected. Ecological processes and biological productivity would not be affected.

Minor — an action would not necessarily decrease or increase the area's overall biological productivity. An action would affect the abundance or distribution of individuals in a localized area but would not affect the viability of local or regional populations or communities.

Moderate — an action would result in a change in overall biological productivity in a small area. An action would affect a local population sufficiently to cause a change in abundance or distribution, but it would not affect the viability of the regional population or communities. Changes to ecological processes would be of limited extent.

Major — an action would result in an overall biological productivity in a relatively large area. An action would affect a regional or local population of a species sufficiently to cause a change in abundance or in distribution to the extent that the population or communities would not be likely to return to its/their former level (adverse), or would return to a sustainable level (beneficial). Important ecological processes would be altered.

Wildlife

Impacts on wildlife are closely related to the impacts on habitat. The evaluation considered whether actions would be likely to displace some or all individuals of a species in the monument or would result in loss or creation of habitat conditions needed for the viability of local or regional populations. Impacts associated with wildlife might include any change in roosting or foraging areas, food supply, protective cover, or distribution or abundance of species.

Negligible — the impact would not be measurable on individuals, and the local populations would not be affected.
Minor — an action would affect the abundance or distribution of individuals in a localized area but would not affect the viability of local or regional populations.
Moderate — an action would affect a local population sufficiently to cause a minor change in abundance or distribution but would not affect the viability of the regional population.
Major — an action would affect a regional or local population of a species sufficiently to cause a change in abundance or in distribution to the extent that the population would not be likely to return to its former level (adverse), or would return to a sustainable level (beneficial).

Special Status Species

Through coordination with the U.S. Fish and Wildlife Service, species of special concern were identified that were generally located in or near the national historical park. This included information on each species, including their preferred habitat, prey, and foraging areas. For special status species, including federally listed species, the following impact intensities were used. These definitions are consistent with the language used to determine effects on threatened and endangered species under section 7 of the Endangered Species Act.

No effect — the action would cause no effect on the special status species or critical habitat.
Not likely to adversely affect — the action would be expected to result in discountable effects on a species or critical habitat (that is, unlikely to occur and not able to be meaningfully measured, detected, or evaluated), or it would be completely beneficial.
Likely to adversely affect — the action would result in a direct or indirect adverse effect on a species or critical habitat, and the effect would not be discountable or completely beneficial.

Soundscapes

Context, time, and intensity together determine the level of impact for an activity. For example, noise for a certain period and intensity would be a greater impact in a highly sensitive context, and a given intensity would be a greater impact if it occurred more often, or for longer duration. It is usually necessary to evaluate all three factors together to determine the level of noise impact. In some cases an analysis of one or more factors may indicate one impact level, while an analysis of another factor may indicate a different impact level, according to the criteria below. In such cases, best professional judgment based on a

documented rationale must be used to determine which impact level best applies to the situation being evaluated.

Negligible — Natural sounds would prevail; human-caused noise would be absent or very infrequent and mostly immeasurable.

Minor — Natural sounds would predominate in zones where management objectives call for natural processes to predominate, with human-caused noise infrequent at low levels. In zones where human-caused noise is consistent with national historical park purpose and objectives, natural sounds could be heard occasionally.

Moderate — In zones where management objectives call for natural processes to predominate, natural sounds would prevail, but human-caused noise could occasionally be present at low to moderate levels. In areas where human-caused noise is consistent with national historical park purpose and objectives, it would predominate during daylight hours and would not be overly disruptive to noise-sensitive visitor activities in the area; in such areas, natural sounds could still be heard occasionally.

Major — In zones where management objectives call for natural processes to predominate, natural sounds would be impacted by human-caused noise sources frequently or for extended periods of time. In zones where human-caused noise is consistent with national historical park purpose and zoning, the natural soundscape would be impacted most of the day; noise would disrupt conversation for long periods of time; and/or make enjoyment of other activities in the area difficult; natural sounds would rarely be heard during the day.

VISITOR EXPERIENCE

This impact analysis considers various aspects of visitor use and experience at Harpers Ferry National Historical Park, including the effects on: visitors' ability to experience the national historical park's primary natural and cultural resources; overall visitor access to the national historical park; the freedom to experience the resources at one's own pace, opportunities for recreational activities, and opportunities for people with disabilities. The analysis is based on how visitor use and experiences would change with the way management prescriptions were applied in the alternatives. The analysis is primarily qualitative rather than quantitative due to the conceptual nature of the alternatives.

Impacts on visitor use and experience were determined considering the best available information regarding visitor use and experience. Information on visitor use and visitor opinions was taken primarily from information and data gathered during this planning process, including opinions from national historical park visitors and neighbors and information provided by NPS staff.

Intensity of Impact

Impacts were evaluated comparatively between alternatives, using the no-action alternative as a baseline for comparison with each action alternative:

Negligible — Visitors would likely be unaware of any effects associated with implementation of the alternative.

Minor — Changes in visitor use and/or experience would be slight but detectable, would affect few visitors, and would not appreciably limit or enhance experiences identified as fundamental to the national historical park's purpose and significance.

Moderate — Some characteristics of visitor use and/or experience would change, and many visitors would likely be aware of the effects associated with implementation of the alternative; some changes to experiences identified as fundamental to the national historical park's purpose and significance would be apparent.

Major — Multiple characteristics of visitor experience would change, including experiences identified as fundamental to the national historical park's purpose and significance; most visitors would be aware of the effects associated with implementation of the alternative.

SOCIOECONOMIC ENVIRONMENT

The National Park Service estimated the impacts on the social and economic situation resulting from each alternative. Economic data, historic visitor use data, and future developments of the national historical park were all considered in identifying, discussing, and evaluating expected impacts.

Assessment of potential socioeconomic impacts was based on comparisons between the no-action alternative and each of the action alternatives.

Duration of Impact

In general, short-term impacts are temporary in duration and are typically transitional effects associated with implementation of an action (e.g., related to construction activities); they are less than a few years. In contrast, long-term impacts may have a permanent effect on the socioeconomic environments and their effect extends beyond a few years (e.g., operational activities).

Negligible —The effects on socioeconomic conditions are below or at the level of detection and localized.

Minor — The effect on socioeconomic conditions are slight but detectable, and only affect a small number of national historical park services and/or a small portion of the surrounding population. The impact would be considered slight and not detectable outside the affected area.

Moderate — The effects on socioeconomic conditions are readily apparent. Any effects would result in changes to socio-economic conditions on a local scale in the affected area.

Major — The effects on socioeconomic conditions are readily apparent. Measurable changes in social and economic conditions at the county level occur. The impact is severely adverse or exceptionally beneficial within the affected area.

Type of Impact

NPS Director Order #12 calls for the effects of the alternatives to be characterized as being beneficial, adverse, or indeterminate in nature. With respect to economic and social effects, few standards or clear definitions exist as to what constitutes beneficial or positive changes and what constitutes adverse or negative changes. For example, rising unemployment is generally perceived as adverse, while increases in job opportunities and average per capita personal income are regarded as beneficial. In many instances, however, changes viewed as favorable by some members of a community are seen as unfavorable by others. For example, the impact of growth on housing markets and values may be seen as favorable by construction contractors and many homeowners, but adverse by renters, local government officials, and community groups concerned with affordability. Consequently, some of the social and economic impacts of the alternatives may be described in such a manner as to allow the individual reviewing this document to determine whether they would be beneficial or adverse (impact is indeterminate with respect to "type").

NPS OPERATIONS

The impact analysis evaluated the effects of the alternatives on the following aspects of NPS operations:

- staffing, infrastructure, visitor facilities, and services

- operations of other entities such as the Harpers Ferry Interpretive Design Center, Mather Training Center, the Potomac Heritage National Scenic Trail office, and the Appalachian Trail Park Office.

The analysis was conducted in terms of how NPS operations and facilities might vary under the different management alternatives. The analysis is qualitative rather than quantitative because of the conceptual nature of the alternatives. Consequently professional judgment was used to reach reasonable conclusions as to the intensity, duration, and type of potential impact.

Duration of Impact

Short-term impacts would be less than one year since most construction is generally completed within a year's timeframe and would last only until all construction-related action items are completed. Long-term impacts would extend beyond one year and have a permanent effect on operations.

Intensity of Impact

Negligible —NPS operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on NPS operations.

Minor — The effects would be detectable, but would be of a magnitude that would not have an appreciable effect on NPS operations.

Moderate —The effects would be readily apparent and would result in a substantial change in NPS operations in a manner noticeable to staff and the public.

Major — The effects would be readily apparent and would result in a substantial change in NPS operations in a manner noticeable to staff and the public and be markedly different from existing operations.

Type of Impact

Beneficial impacts would improve NPS operations and/or facilities. Adverse impacts would negatively affect NPS operations and/or facilities and could hinder the staff's ability to provide adequate services and facilities to visitors and staff. Some impacts could be beneficial for some operations or facilities and adverse or neutral for others.

CUMULATIVE IMPACT ANALYSIS

A cumulative impact is described in the Council on Environmental Quality's regulation 1508.7 as follows:

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

Actions outside Harpers Ferry National Historical Park

To determine potential cumulative impacts, *other* projects within and surrounding the units of Harpers Ferry National Historical Park were identified. The area included Jefferson, Loudoun, and Washington counties. Projects were identified by discussions with the NPS staff, federal land managers, and representatives of county and town governments. Potential projects identified as cumulative actions included any planning or development activity that was currently being implemented, or would be implemented in the reasonably foreseeable future. Impacts of past actions were also considered in the analysis.

These past, present, and future actions are evaluated in conjunction with the impacts of each alternative to determine if they would have any cumulative effects on a particular natural, cultural, or socioeconomic resource or visitor use. For those cumulative actions that are in the early planning stages, the qualitative evaluation of cumulative impacts is based on a general description of the projects.

Land acquisition by the National Park Service has halted development of structures and the clear cutting of vegetation along ridges. Preservation of historic buildings within the community near the national historical park has encouraged private preservation of other community historic structures. Removal of the parking area on Hamilton Street near the Shenandoah River in Lower Town has removed a modern intrusion and source of resource damage from the heart of the national historical park but has also resulted in a more contemplative, natural area less reminiscent of its historic rural small town appearance. The rerouting of U.S. 340 to its new location outside Lower Town has allowed the restoration of the historic area and vehicular congestion but also has resulted in higher speed traffic through other areas of the community and the national historical park. Redevelopment of the train station would ensure this important historic community structure was preserved for the future and that its use remains as a train station for Amtrak and MARC trains. NPS development of facilities on Cavalier Heights has allowed the removal of vehicular congestion and vehicle parking from the national historical park in Lower Town and increased use at commercial establishments by provide more parking at Cavalier Heights than was previously available throughout the Lower Town.

Residential and commercial development has occurred throughout the region since the 1700s but has greatly increased in the last 20-30 years. Loudoun County in Virginia is one of the fastest growing counties in the nation (see the "Socioeconomic Environment" section in the Affected Environment chapter). Most of the growing populace commutes to work in the District of Columbia metropolitan area.

Establishment and growth of Harpers Ferry National Historical Park has resulted in the long-term preservation of thousands of acres of land amid the development. Outlying areas such as Maryland Heights, Short Hill, and Loudoun Heights were acquired to maintain the natural viewshed as seen from the national historical park. These areas have become *de facto* nature preserves where ecological processes are allowed to occur. Other areas such as the Schoolhouse Ridge battlefield were acquired to protect sites of Civil War events.

The area around the confluence of the two rivers has always been important to travel. Buggy paths, canals, railroads, and modern highways are an integral part of the Harpers Ferry history. Vehicle thoroughfares have changed somewhat over the years as various combinations of roads and bridges have been tried with mixed success. All traffic used to go through the middle of town and now bypasses town on the Virginia side of the Shenandoah River. This bypass has reduced traffic through town, which may have resulted in some negative economic impact, although the national historical park brings far more visitors than previously visited the town. Construction of the bypass and other roads has resulted in adverse impacts to river shores and other natural resources. Noise from the current highway impacts the soundscape throughout the valley. Two sets of piers from abandoned bridges remain in the rivers possibly disrupting flow, causing scouring of the substrate, and collecting debris.

Actions inside Harpers Ferry National Historical Park

The primary projects and actions in the national historical park that could contribute to cumulative effects are summarized below.

Parking and Cavalier Heights. During the late 1970s and early 1980s, a plan was developed to remove parking from Lower Town. A new national historical park entrance was created at Cavalier Heights with parking, a kiosk, a visitor contact station, restrooms, and a bus staging facility. This removed vehicles congesting the narrow streets of Lower Town and opened up areas to pedestrians that were formerly used for parking that had adverse effect on the resource.

Potoma Wayside. With the growth of the popularity of river rafting in the 1970s and 1980s, the use of the Shenandoah River by individuals and commercial river rafters began to impinge upon the river front area of Lower Town. Rafters entered the river upstream of the national historical park and took out in Lower Town. This raised competition for parking spaces with visitors to the national historical park attractions in Lower Town. As a solution to the dilemma, a take-out was designed at the Potoma Wayside on the west side of the Potomac River just below the confluence of the two rivers that allowed the recreational river use to be separated from the national historical park's visitor use that was dependent upon the historical resources of Lower Town.

Historic Preservation. The national historical park is undertaking a program of preservation of historic ruins on Virginius and Hall's islands. The projects consist of exposing foundations and other structural features, stabilizing them and interpreting them to the public. A major purpose is to provide some protection for these ruins to allow them to withstand the ravages of periodic flooding.

Another project currently underway is the identification of structures within the historic armory. This archeological work will provide valuable information about the location of armory buildings, working conditions during its time of operation and samples of material culture for research. The archeological investigations will also provide information necessary to accurately outline building locations for interpretation.

A program of preservation is ongoing on all historic structures throughout the national historical park. Work included is that necessary to bring buildings up to acceptable preservation levels based on building significance and purpose.

A new dormitory lodge for use by Mather Training Center has been studied by the National Park Service but has not been advanced due to funding considerations, and other options to possibly co-locate dorm use at another agency's facilities. The design is complementary in scale and style to the other structures within the Storer campus but clearly a modern construction.

Historic Buildings and Structures. The Harpers Ferry area has a history of tourism based on its dramatic location at the confluence of the Shenandoah and Potomac rivers and the historic significance of its past. With the designation of the national historical park, a comprehensive program of inventory and preservation was undertaken, primarily in Lower Town and on Camp Hill. A period of significance was determined for Lower Town to be from the town's founding to about 1900. Structures from that period received preservation treatment, while structures from the later period were removed. On Camp Hill structures from the Storer College tenure were preserved. This has resulted in an extraordinary number of historic buildings and structures within the national historical park. Outside the national historical park the community has worked to preserve other historic structures and homes that give

Harpers Ferry its distinctive historic appearance.

During the first half of the 20th century, numerous buildings were destroyed or so extensively damaged by floods that they had to be removed. These structures were generally located along Shenandoah Street and consisted of a wide range of building types though primarily commercial and residential.

Once a bustling manufacturing community, Virginius and Hall's islands have been almost completely transformed into a natural area as a result of flooding.

The former armory firehouse that became known as John Brown's Fort after the raid is an icon of abolition and the American Civil War. Soon after the end of the war the structure began a journey that resulted in its disassembly and reconstruction in several locations before being returned to Lower Town. However, the history of the building may have only increased because of its travels. The John Brown Fort was returned to its present location, several hundred feet from its original location, by the National Park Service in 1967.

With the continuing growth of urban Washington, D.C., suburban development has moved up the Potomac Valley towards Harpers Ferry. The result has been the loss of older buildings and structures outside the national historical park as new development has taken over.

Through stabilization, rehabilitation, and ongoing maintenance Harpers Ferry National Historical Park has provided protection and preservation of historic structures that have been subjected to numerous floods, past periods of neglect and historic financial fluctuations that affected the upkeep of the town. This work has resulted in no adverse effect.

Cultural Landscapes. Past decisions to interpret the national historical park primarily based on its 19th century importance has appreciably altered the landscape through the removal of a number of historic buildings and structures. The most dramatic of these changes has occurred in Lower Town with the removal of numerous structures leaving open lots in the once tightly faced rows of buildings. Numerous structures were removed between Shenandoah Street and the Shenandoah River. Removal of buildings has occurred on Camp Hill as well.

The circulation pattern of the national historical park was dramatically changed with the creation of Shoreline Drive, a road linking the Cavalier Heights visitor contact facility to Lower Town via Shenandoah Street.

Flooding resulted in the eventual loss of all historic structures within the once bustling community of Virginius and Hall's islands. A community of large factories, numerous houses, streets, and activity has now been nearly reclaimed by nature. However, evidence of the rich history of this industrial community has been preserved in the archeological record. Due to the recurring threat posed by flooding, and NPS policy not to do reconstruction, no effort has been made to restore the islands to their historic appearance.

Archeological Resources. The National Park Service has undertaken considerable archeological work within Harpers Ferry National Historical Park to assist preservation and interpretation of historic resources and to understand the prehistory and history of the area. Ongoing work within the national historical park, such as that on the armory grounds and on Virginius and Hall's islands is being undertaken to stabilize remaining foundations.

Museum Collections. The national historical park has extensive collections of museum items associated with the history and

development of Harpers Ferry. Examples of museum objects are from the manufacturing, Civil War, and Storer College periods. Many of these items are stored at the National Park Service' Museum Resource Center (MRCE) in Landover, Maryland. An NPS curator oversees the preservation of museum objects within the collections.

Acquisition of Scenic Areas Beneficial to Animals and Fish. Areas of the national historical park that were purchased to protect the view from Jefferson Rock are being allowed to revert to a more natural condition. A program of structures removal, nonnative species removal, and landscape restoration is underway as funding permits.

Acquisition of Land for View Protection. Because the views from Harpers Ferry are of great importance to the historical landscape, the national historical park has acquired the heights along the Potomac and Shenandoah rivers to ensure that they will never be deforested or developed.

Future Actions

New development in the form of small and large residential lots (concentrated and open development) is expected to increase in the foreseeable future on the West Virginia and Maryland sides of the national historical park. Some commercial development is expected to accompany the new residential neighborhoods. The 2004 *Jefferson County Comprehensive Plan* predicts that Jefferson County (West Virginia) population is expected to increase by 20,000 people by the year 2020. This plan also states that the population is increasing the fastest in the rural areas rather than municipalities. This trend is common to most of the surrounding counties.

The 2004 *Jefferson County Comprehensive Plan* calls for encouraging economic development, farming opportunities, and planned land development. It also calls for natural features, particularly stream valleys, to be conserved as green spaces.

Highway 340 is a major access point to the eastern part of West Virginia. The highway narrows to two lanes through the park and there is pressure from the public and the states to widen the road to four lanes.

In the national historical park, historic structure preservation and natural resource management actions would continue according to current park service policies and as funding allows.

There is a planned expansion of the public transportation system in Charles Town. This would include an expanded bus system, the addition of commuter rail stations, and new bicycle paths. Construction of new commuter rail access near Charles Town could take some commuter traffic out of Lower Town in Harpers Ferry and relieve the traffic congestion and parking problems now being experienced. It can be assumed that historic structure preservation and natural resource management actions would continue.

IMPAIRMENT OF NATIONAL HISTORICAL PARK RESOURCES

In addition to determining the environmental consequences of implementing the preferred and other alternatives, NPS *Management Policies 2006* (section 1.4) requires analysis of potential effects to determine whether or not proposed actions would impair national historical park resources and values.

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve parks' resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on parks' resources and values. However, the laws do give the

National Park Service the management discretion to allow impacts on parks' resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within a park, that discretion is limited by the statutory requirement that the National Park Service must leave resources and values unimpaired unless a particular law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS 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 (NPS *Management Policies 2006* 1.4.5). An impact to any park's resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

Impairment could result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the national historical park. This will be addressed consistent with NPS *Management Policies 2006* sections 1.6 and 1.7 on Cooperative Conservation and Civic Engagement.

A determination on impairment is made in the "Environmental Consequences" section in the conclusion section for each required impact topic related to the national historical park's resources and values. An evaluation of impairment is not required for topics related to visitor use and experience (unless the impact is resource based), NPS operations, or the socioeconomic environment. When it is determined that an action(s) would have a moderate to major adverse effect, justification for a finding of nonimpairment is made. Impacts of only negligible or minor intensity would by definition not result in impairment.

IMPACTS OF ALTERNATIVE 1 — NO ACTION

CULTURAL RESOURCES

Historic Structures

Lower Town. To appropriately preserve and protect national register-listed or -eligible historic structures, all stabilization, preservation, and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during rehabilitation efforts would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work at the sites. Stabilization, preservation, and rehabilitation would have no adverse effects on historic structures.

Historic structures could suffer wear and tear from increased visitation, but monitoring the carrying capacity of historic structures could result in the imposition of visitation levels or constraints that would contribute to the stability or integrity of the resources without unduly hindering interpretation for visitors. Unstaffed or minimally staffed structures could be more susceptible to vandalism. However, few, if any, adverse impacts would be anticipated.

Federal Armory. Structures associated with the armory, such as the river wall and foundations would be monitored and maintained to preserve their historic importance. Limited interpretation and visitation of this area would continue. These activities would result in no adverse effect to historic structures.

Potomac Frontage. The condition of the Armory canal would be monitored and occasional maintenance actions implemented. Occasional wall blowouts, vegetation growth, and periodic flooding could eventually result in the loss of canal integrity. Associated structures such as the Potomac Power Hydroelectric Plant would also continue to slowly deteriorate. Occasional maintenance activities would be undertaken to secure and stabilize the building envelope. Eventually, deterioration could outstrip the ability to maintain these features and historic integrity would be lost. The impact on the historic structures of the Potomac Frontage area in this event would be adverse.

Virginius Island / Hall's Island. Some limited stabilization of exposed historic ruins on Virginius and Hall's islands would continue in order to provide for visitor interpretation. Such stabilization activities would result in no adverse effect to historic resources.

Camp Hill. Buildings now used for NPS administrative purposes would continue to be used for those purposes. As with the structures in Lower Town, these structures were not designed for the level of use they receive and require constant maintenance in keeping with the Secretary of the Interior's *Standards and Guidelines for Historic Preservation*. These continuing impacts would require increased maintenance over the life of the general management plan to ensure that such use has no adverse effects on the structures.

Shipley School. If funding was available from a non-NPS organization, and the school could be rehabilitated, it would be adaptively used for a variety of NPS purposes. This action would likely impact historic fabric through reconfiguration of walls, utility lines, and other systems necessary to adapt the building for new uses. The result of rehabilitation would have no adverse effect. If allowed to molder, there would be an adverse effect.

Loudoun Heights. Preservation actions would be limited to those that would protect the long-term condition of remnant

earthworks. There would be no adverse effect to earthworks and other military defensive works from implementation of this alternative.

Maryland Heights. Stabilization or preservation actions would be limited to those that would protect the long-term condition of the remnant earthworks present. There would be no adverse effect to earthworks and other military defensive works from implementation of this alternative.

Short Hill. Stabilization-related actions would occur to protect the long-term condition of the industrial complex and domestic sites. There would be no adverse effect from implementation of this alternative.

Schoolhouse Ridge. Under this alternative, structures at the former Jellystone campground would be left to deteriorate, or would be removed if they posed a safety hazard. Other former residences and ruins located on Schoolhouse Ridge would be evaluated under National Register of Historic Places criteria before any action were taken. If the structures were found to be eligible for inclusion, their removal to restore the appearance of the battlefield would result in an adverse effect. NPS staff would consult with the state historic preservation officer and the Advisory Council on Historic Preservation to mitigate any adverse effect actions.

Murphy Farm. Stabilization of the Murphy farmhouse would be undertaken to halt deterioration. The results would have no adverse effect on this historic structure.

There would be stabilization-related actions to protect the long-term condition of remnant Civil War earthworks. As a result, there would be no adverse effect from implementation of this alternative.

There would continue to be stabilization of the foundation of John Brown's Fort. The foundations would be preserved, resulting in no adverse effect on this structure.

Nash Farm. The structures on the Nash Farm would be stabilized and maintained. Stabilization of the structures would permit eventual long-term preservation. Structural stabilization would result in no adverse effect to the Nash farm buildings.

Potomac Terrace. Grandview School would be adaptively rehabilitated as office space. This rehabilitation would be primarily limited to the interior of the structure and could impact some historic fabric. However, these impacts would be expected to be minimal and would result in no adverse effect to the historic building.

Cumulative Effects — Over the years, historic structures in the park and general vicinity have been adversely impacted by natural processes such as weathering, and historic structures outside the park have been demolished for agriculture and development. Historic structures in the park have also been adversely impacted by wear and tear associated with visitor access. In addition, since the formation of the park the National Park Service has removed 35 structures identified as either unsafe, unstable, or out of character with the 19th century period of significance. These removals occurred primarily in Lower Town, although several structures on Camp Hill were also removed. The removal of these structures resulted in adverse effects.

As described above, the potential impacts associated with implementation of alternative 1 would result in both no adverse effects and adverse effects on the national historical park's historic structures. The adverse impacts of implementing alternative 1, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 1,

however, would only contribute minimally to the overall adverse cumulative impact.

Conclusion — Stabilizing and preserving historic structures would considerably reduce the loss of historic fabric over time. The result would be beneficial. When compared with the impacts of past and present actions, and those reasonably foreseeable future actions, this alternative contributes only a minimal amount to the adverse effect of the total of all such actions.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or ((3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Archeological Resources

Archeological resources adjacent to or easily accessible from trails and developed areas could be vulnerable to surface disturbance, inadvertent damage, and vandalism. A loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence could result. However, continued ranger patrol and emphasis on visitor education would discourage vandalism and inadvertent destruction of cultural remains, and any adverse impacts would be expected to be minimal if any.

Federal Armory. In this alternative, the Federal Armory grounds would continue to be managed for the protection of archeological remains. This would include protection from vandalizing, looting, or other visitor-related impact to archeological sites. Continued patrolling by NPS staff would provide security from visitor impacts resulting in no adverse effects.

Select removal of trees and other invasive vegetation would be accomplished through means that would not disturb archeological deposits. These actions would have no adverse effect on archeological resources.

Virginius Island / Hall's Island. Continued stabilization of the historic structural remains could impact associated archeological deposits such as artifacts and cultural features. Archeological investigations would be conducted in order to identify and recover any such artifacts and associated contextual information prior to structural stabilization efforts. The results of these investigations could adversely affect any associated archeological remains.

Select removal of trees and other invasive vegetation would be accomplished through means that would not disturb archeological deposits. These actions would have no adverse effect on archeological resources.

Potomac River Frontage. Continuing current maintenance policies would allow vegetation to reclaim the site. The result would be large trees and other vegetation continuing to disturb archeological deposits and structural features. These actions would have an adverse effect on archeological resources.

Maryland Heights, Loudoun Heights, and Short Hill. There would be no anticipated effects on the archeological resources of Maryland or Loudoun Heights.

Cumulative Effects — Past development in the national historical park may have resulted in the disturbance and loss of some archeological resources during excavation and construction activities. In addition, agricultural practices and the development and expansion of communities in and near the park may also have previously disturbed

archeological resources. The continuation of current activities could also result in future adverse impacts on archeological resources. As described above, implementation of alternative 1 could potentially disturb archeological resources at the national historical park — resulting in adverse effects. Any adverse impacts associated with the implementation of alternative 1, in combination with the impacts of other past, present, and reasonably foreseeable future projects, would result in adverse cumulative impacts. However, alternative 1 would be expected to contribute only minimally to the overall adverse cumulative impacts. Thus, any adverse impacts on archeological resources resulting from implementation of alternative 1 would be a very small component of the adverse cumulative impact.

Conclusion — The discussion of possible impacts on archeological resources above is theoretical until such resources are actually found. Archeological testing and/or excavation before any ground disturbance in the park could result in positive and negative impacts. Should archeological testing identify resources of significance, mitigation activities could be implemented or the project could be redesigned to lessen or do away with any impact. There would be an effect, but that effect would not be adverse because the site would remain essentially intact. However, if the project cannot be redesigned to lessen any effect on archeological resources and removal of the site is required, the impact on the site would be adverse despite the mitigating factors of data recovery/research and possible interpretation. Once excavated the context of the site would be lost.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Cultural Landscapes

To appropriately preserve and protect national register-listed or -eligible cultural landscapes, all stabilization, preservation, and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Stabilization, preservation, and rehabilitation would have no adverse effects on cultural landscapes.

Lower Town. The streets in Lower Town are under the jurisdiction of the town of Harpers Ferry. Vehicles use the streets throughout the day when visitors are in the national historical park. In this alternative unrestricted vehicular access to streets in the national historical park would continue to bring nonhistoric elements into the historic scene, adverse visual and noise impacts on the historic scene of Lower Town.

The cultural landscape of Lower Town would not change appreciably in this alternative. Actions undertaken would be designed to maintain the landscape in its present condition. Maintenance activities would result in no adverse effects.

Federal Armory. The current stairway providing access to the armory grounds from the top of the railroad berm at the approximate location of John Brown's Monument would remain. This nonhistoric element would continue to be an adverse visual effect on the cultural landscape of the Federal Armory grounds.

Selective removal of trees and shrubs would continue under existing maintenance policies. Eradication of such vegetation would be beneficial to the overall condition of the

cultural landscape of the Armory. These actions would have no adverse effect on the cultural landscape.

Potomac River Frontage. Evaluation and implementation of stabilization and preservation measures on historic structures such as head gates and canal walls would be undertaken.

Periodic evaluation for structural failure would ensure the integrity of the cultural landscape. This stabilization would have no adverse effect on historic properties.

Virginius Island / Hall's Island. No landscape actions are proposed under this alternative.

Maryland Heights, Loudoun Heights, Short Hill. Stabilization or preservation actions at Maryland Heights, Loudoun Heights, and Short Hill would be limited to those that would protect the long-term condition of the remnant earthworks present. The result would not be adverse.

Schoolhouse Ridge. Schoolhouse Ridge would continue to be maintained as a battlefield landscape utilizing agricultural leases. Leaving nonhistoric intrusions on the historic cultural landscape of the battlefield would be an adverse effect.

Cumulative Effects — During the first half of the 20th century several major flooding episodes inundated what is now Harpers Ferry National Historical Park. The most extensive impacts occurred in Lower Town where the loss of buildings left open lots in the tight rows of structures. Additional loss of contiguous sets of structures on Shenandoah Street near The Green and structures in the Hamilton Street area also occurred. As a result, the loss of these structures adversely impacted the historic cultural landscape through the removal of a substantial portion of the historic setting.

Past interpretation by the national historical park that emphasized its 19th century history has resulted in the removal of numerous historic structures and landscape features not associated with that period. Other structures were removed for reasons of public safety. The scale of structures removed from the streetscape has altered the cultural landscape dramatically and has resulted in an adverse effect.

In 1969 John Brown's Fort was moved from Storer College to its present site about 100 yards from its original location. It was not possible to move the fort to its original location due to a berm constructed by the B & O Railroad. The fort's proximity to the original location has had a generally beneficial impact on the cultural landscape. Adequate interpretation of the history of the site is possible at this location. The return of the John Brown Fort to Arsenal Square has resulted in no adverse effect.

The elimination of historic streets and the creation of nonhistoric pedestrian trails have resulted in changes in access and movement through a considerable section of Lower Town. Reconfiguring the circulation pattern of the national historical park by the addition of a connector road between the Cavalier Heights visitor contact facility and Lower Town has also generally had an adverse effect upon the cultural landscape.

Through stabilization, rehabilitation, and ongoing maintenance, Harpers Ferry National Historical Park has provided protection and preservation of historic structures that have been subjected to numerous floods, past periods of neglect and historic financial fluctuations that affected the upkeep of the town. This work has resulted in no adverse effect.

Beyond the national historical park boundaries, population growth, primarily associated with the development of metropolitan Washington, D.C., has spread into

previously rural locations, and local towns. The increasing impacts of new buildings and urban development are altering the character of the historic cultural landscape. In particular, transportation corridors have altered the landscape as buildings and transportation related improvements are completed. The results of these impacts have had an adverse effect on the rural character of the cultural landscape surrounding the national historical park.

As described above, the potential impacts associated with implementing alternative 1 would result in both no adverse effects and adverse effects to the national historical park's cultural landscapes. The adverse impacts of alternative 1, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 1, however, would only contribute minimally to the overall adverse cumulative impact.

Conclusion — The potential impacts associated with implementing alternative 1 would result in both no adverse effects and adverse effects on the national historical park's cultural landscapes. The adverse impacts of alternative 1 would only contribute minimally to the adverse cumulative impact.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

NATURAL RESOURCES

Wetlands and Water Resources

Former canals in the national historical park have become *de facto* wetlands and these areas would continue to be managed and protected for their wetland habitat values. This alternative would not result in any changes in management that would affect the quality or quantity of water resources. No impoundment of surface water is anticipated and there would be no removal of water or discharge into the national historical park's water bodies resulting from this alternative. Water quality would continue to be monitored in the national historical park, and actions would be taken to identify and alleviate the source if degradation is discovered.

In summary, alternative 1 would have no effect on water resources in the national historical park.

Cumulative Effects — Water resources in the Potomac and Shenandoah river basins have been adversely affected by 200 years of human use and activity. Both domestic and industrial wastes are sources of water pollution in the region. Agricultural practices, including the use of fertilizers and pesticides, are primary contributors to contamination of the streams and rivers. The amount and type of forest cover, land use, and waste from industries each affect sedimentation and the quality of the river bottoms. These sources of water quality degradation are located outside national historical park boundaries.

Some wetlands within the region have been filled in to make more land available for development. This practice decreases wetland areas and removes their natural beneficial values. However, closure of the water-powered industries and nonuse of the canals has led to the creation of a wetland on Virginius Island and a smaller one in the old Armory canal in the national historical park.

This is a beneficial effect that may somewhat offset the loss of other wetlands in the region.

Illegal activities such as inadequate or nonfunctioning septic systems, dumping of waste in the rivers or unauthorized horse use near waterways adversely affects water quality.

Several state and federal agencies are involved in an initiative to clean up and protect the Chesapeake Bay watershed, of which the Potomac River is a contributor. This effort will produce long-term minor to moderate beneficial impacts on the watershed that extends from West Virginia to New York by fixing past adverse impacts.

The no-action alternative would not contribute to these effects and so would have no cumulative impacts on water resources.

Conclusion — This alternative would have no new effects and, therefore, no cumulative effects on water resources. There would be no impairment of this resource as a result of this alternative.

Floodplains

The natural and beneficial values of floodplains would continue to be compromised by the development around the confluence of the Potomac and Shenandoah rivers. Occasional damage to national historical park structures from floodwaters would continue. No additional development would occur in the floodplain.

When flooding does occur, local, state, and federal warning systems are activated and the flow velocities through town are relatively slow, so the potential that visitors or NPS employees could be injured or lose their lives is low.

Cumulative Effects — Floodplains of the Potomac and Shenandoah rivers have been adversely affected by 200 years of human use and activity. Construction of roads, canals, housing and commercial development has adversely affected the original floodplains as well as constrained the natural meandering of the rivers. This would continue.

Establishment of the national historical park and preservation of the outlying natural areas has maintained the beneficial values of the floodplains along those undeveloped areas. Floodplains would continue to be adversely affected by the development that prevents natural river movement and sediment deposition.

The no-action alternative would have no beneficial or adverse contribution to these effects. Therefore, there would be no cumulative impacts on floodplains as a result of implementing this alternative.

Conclusion — This alternative would have no additional effects on floodplains and no project-related cumulative effects. There would be no impairment of a key national historical park resource or value as a result of this alternative.

Soils

Implementing this alternative would result in adverse impacts to soil resources from ongoing structural renovation and stabilization and minor construction. These actions would disturb soil layers and affect topsoil. This would occur in previously disturbed areas and mitigation such as dust abatement and silt fencing would be applied to reduce the potential for soil loss during construction. The anticipated impacts from this alternative would be short and long term, negligible, and adverse.

Cumulative Effects — Impacts from existing roads and developments in the national historical park would remain under the no-action alternative. In addition, foresee-

able future actions of further development in the vicinity of the national historical park would adversely impact soils through compaction and displacement from construction activities — such as residential development on the Maryland side of the Potomac River.

The no-action alternative would result in negligible adverse impacts. When the impacts of this alternative are combined with other past, present, and future actions, there would be minor to moderate adverse cumulative effects on the soil resource. Alternative 1 would only have a slight contribution to the overall cumulative effect.

Conclusion — Implementing the no-action alternative would have long-term negligible adverse impacts on soil resources. When this alternative is combined with other past, present, and future actions, there would be minor to moderate adverse cumulative effects on the soil resource. There would be no impairment of this resource.

Cave and Karst Resources

The no-action alternative would not create any changes to current conditions or situations affecting cave and karst resources. Existing impacts to cave resources from unauthorized entry (e.g., graffiti, trash) would continue at the same level and intensity as they are now.

Cumulative Effects — Subterranean ecosystems are typically in an extremely delicate balance and easily disrupted. Natural processes can change the cave environment including daily exchanges of air, introduction of organic material from water flow or large animals; and a rock fall closing an entrance or passageway. Humans entering the caves described above have altered the natural balance by introducing foreign matter (dead skin, hair, clothing lint, and other introduced organic matter), exhaling carbon dioxide, trampling cave life, as well as intentional littering and vandalism (graffiti, breaking formations). These human-caused effects result in short-and long-term, minor to moderate adverse impacts.

The no-action alternative would not contribute to these cumulative effects on cave resources.

Conclusion — This alternative would create no additional impacts on this resource and so there would be no project-related cumulative effects. There would be no impairment of a key national historical park resource or value as a result of this alternative.

Vegetative Communities

Implementing this alternative would result in adverse impacts to vegetation from ongoing structure renovation and stabilization and minor construction. These actions would disturb or destroy existing vegetation. This would occur in previously disturbed areas where there are very few natural vegetative communities.

NPS staff would continue vegetation trimming, clearing, and agricultural use to maintain historic vistas and historic landscapes. This would occur on previously disturbed vegetation and would continue short- and long-term negligible adverse impacts.

The anticipated impacts from this alternative would be long-term, negligible, and adverse.

Cumulative Effects — Native vegetation in the region has been systematically disturbed for thousands of years. From early Native American cultures through the Industrial era, humans relied on the vegetation for food, fuel and shelter. As more people came into the region, nonnative plants came with them. These actions altered the vegetation in relatively small areas throughout most of the region.

The establishment of Harpers Ferry National Historical Park has resulted in moderate beneficial impacts to vegetation through protection of native vegetation and nonnative species eradication efforts.

Social trails occur in almost all areas of the national historical park. These are unplanned and unmaintained trails created by visitors. They can damage vegetation, disrupt animal habitats, and cause soil erosion. Seeds of nonnative plants carried by wind and humans have created infestations of noxious weeds and other invasive species that cause long-term adverse effects on native vegetation.

The national historical park would continue vegetation trimming, clearing, and agricultural use to maintain historic vistas and historic landscapes, resulting in continued long-term beneficial impacts.

The no-action alternative would cause negligible adverse impacts. When combined with the moderate adverse effects of other past, present, and future actions alternative 1 would have a moderate adverse cumulative effect on vegetative resources. Alternative 1 would contribute only slightly to these cumulative effects.

Conclusion — Implementing the no-action alternative would have a long-term negligible adverse impact on native vegetative communities. When combined with the moderate adverse effects of other past, present, and future actions, this alternative would have a moderate adverse cumulative effect on vegetative communities. There would be no impairment of this resource as a result of this alternative.

Fish and Wildlife

The no-action alternative would cause no new effects on fish and wildlife populations or their habitat. Existing conditions and situations would continue. There would be no changes in the current status of fish or wildlife communities either in terms of species composition or population dynamics other than those brought about by natural environmental processes.

Cumulative Effects — Actions affecting wildlife are occurring in the region around Harpers Ferry as a result of agriculture, and urban development. Actions taken on private, state, and federal land can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has affected the abundance and diversity of wildlife by changing the capacity of habitats to provide necessary food, shelter and reproduction sites. Wildlife is slowly becoming more restricted by current land uses, increasing development and human activity, causing individuals and populations to either adapt or move. This has caused minor to moderate adverse impacts.

Establishment of the national historical park has resulted in long-term benefits for fish and wildlife populations. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to continue. These protected areas in the national historical park are highly beneficial because of the quality fish and wildlife habitat they provide.

The impacts of ongoing and reasonably foreseeable future actions such as visitor use, facility maintenance and natural resources management, when analyzed in combination with proposals in this alternative, would have no effect and there would be no project-related cumulative impacts on fish and wildlife resources.

Conclusion — Implementation of this alternative would have no effect and there would be no project-related cumulative impacts to wildlife populations. Therefore, no impairment of any wildlife species would occur.

Special Status Species

This alternative would continue current management of the national historical park with no changes in plant or wildlife management. No change from the current status of the Indiana bat or bald eagle would result from implementation of this alternative. No changes in national historical park development or visitor use would occur that would affect habitat used by these species.

Inventory and monitoring of state and federally listed species would continue and protective measures implemented when necessary. This alternative would have no new effects on federal or state special status species.

Cumulative Effects — Habitat loss or disruption is the most common reason for a terrestrial wildlife or plant species to become threatened or endangered. Loss or fragmentation of habitat has occurred in the region as a result of commercial and residential development and agriculture. Actions that change the use of land on private, state, and federal land can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has changed the capacity of habitats to provide necessary food, shelter and territory, resulting in the decrease of population numbers. Past impacts on threatened and endangered species from human activities have been moderate to major and adverse.

Establishment of the national historical park has resulted in long-term benefits for special status species. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to continue. These protected areas in the national historical park will become increasingly important in providing quality habitat for rare species in the region.

Residential development in Maryland and West Virginia would continue to reduce habitat for special status species, resulting in long-term minor to moderate adverse impacts on these species.

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related cumulative impacts to listed, candidate or other special status species.

Conclusion — Implementing the no-action alternative would have no effect on the Indiana bat, bald eagle, or species of concern. There would be no project-related cumulative impacts on special status species. No impairment of special status species would occur as a result of the no- action alternative.

Soundscapes

This alternative would not result in any changes to the quality of existing natural soundscapes. Impacts to soundscapes from the highway and rail lines would continue. The level of human-related noise in all areas of the national historical park is not anticipated to change substantially from existing levels as a result of the no-action alternative.

Cumulative Effects — Because portions of the national historical park are in an urban setting, human-caused sounds tend to dominate. Disruptions come from development and other human activities inside and outside the national historical park. Traffic on Highway 340 creates constant noise and trains create high aural impacts regularly over the course of a day. Sounds of a modern town, such as vehicles, phones and so on, have intruded on the historic setting in Lower Town.

Establishment of the national historical park and subsequent land acquisitions has preserved natural soundscapes in the outlying areas.

Continuing trends of population growth in the area would result in additional adverse impacts on natural soundscapes.

Because this alternative would not contribute to the impacts of other past, present and reasonably foreseeable future actions, there would be no project-related cumulative impacts on the national historical park's soundscapes.

Conclusion — Alternative 1 would have no new effect on natural soundscapes in the national historical park, and there would be no cumulative effects. There would be no impairment of a key national historical park resource or value as a result of this alternative.

Lightscapes

Following NPS policy, existing outdoor lighting that is found to be contributing to nighttime light pollution would be replaced with fixtures that are sensitive to the resource. In addition, any new outdoor lighting installed as a result of implementing any of the actions in this document would be the minimum necessary for safety or security and of a design that prevents stray light from spreading upwards into the sky. NPS staff would work with surrounding communities on ways to decrease light pollution in the region under any alternative. With these standard practices, this alternative would result in a long-term minor beneficial impact on the national historical park's lightscape.

Cumulative Effects — The clarity of night skies over the national historical park have been diminished by artificial light sources both within and outside the park that create a haze of light obscuring views of stars and distant topographic features. The primary culprit is outdoor lighting of a type that allows light to shine up into the sky. Outdoor lighting is common throughout the region, including inside national historical park boundaries. Protection of the national historical park's natural areas has a long-term beneficial impact by maintaining lightless areas.

The no-action alternative would contribute a beneficial impact to the impacts of other actions, resulting in minor and adverse overall cumulative effects.

Conclusion — This alternative would have a long-term, minor beneficial impact on lightscapes. The no-action alternative would result in minor and adverse overall cumulative effects. There would be no impairment of a key national historical park resource or value as a result of this alternative.

VISITOR EXPERIENCE

The national historical park's interpretive, education and information programs would continue and visitors would not notice any difference in their visit if this alternative were to be implemented.

Lower Town

In this alternative, most of the interpretation would be centered in Lower Town. There would continue to be little or no interpretation in many outlying areas of the national historical park. Much of the visitor's experience within the national historical park would be derived from self-guided exploration. NPS staff or volunteers would continue to provide guided tours and demonstrations during the heavy visitor use periods.

Visitors may continue to lose a sense of where they are in relationship to the resources when disembarking in Lower Town. Visitors being separated from their vehicles can be uncomfortable for some if they do not understand the philosophy behind the NPS alternative transportation system. Most visitors would continue to see little of the national historical park other than Lower Town under this alternative.

Modern intrusions would continue to affect visitor experience by distracting from the historical setting. The flat, museum-like atmosphere of Lower Town would continue. A continuation of long-term negligible to minor adverse impacts to visitor experience would occur.

Federal Armory

Visitors would still have to visit three buildings to obtain the story of the Federal Armory, none of which are located on the armory grounds. This would be a continuation of long-term negligible impacts on the visitor experience.

Virginius and Hall's Islands

The trails and interpretive panels on Virginius Island would remain. There would be no interpretation on Hall's Island, resulting in a negligible long-term adverse impact on the visitor experience.

Camp Hill

Visitors would continue to access Camp Hill on their own. Parking would be limited. The visitor experience would be restricted to viewing only the exterior of the structures and the interpretive panels present. Interpretation of Camp Hill history and significance would continue to be in Lower Town. This alternative would result in the continuance of minor adverse impacts on visitor experience at this location.

Cavalier Heights

The area would remain as the primary entrance to the national historical park. Visitors would receive their initial orientation at the visitor contact station. Visitors who do not enter the visitor contact station would continue to receive little or no orientation or direction on how to visit the national historical park. Similarly, if the contact station is crowded, visitors may not receive the information they need or desire. Departing the Cavalier Heights orientation area without adequate information and orientation causes a moderate long-term adverse impact on visitor experience.

Maryland Heights, Loudoun Heights, and Short Hill

The recreational opportunities now available at these national historical park locations, such as hiking, viewing historic sites, and observing nature would continue. Existing trails and vegetation clearings would be retained. Visitors would access these areas on their own. There would be no effect on visitor experience at these locations.

Schoolhouse Ridge

Because of the lack of tours and interpretive media, outlying civil war sites would continue to be less frequented. It is anticipated that only avid civil war enthusiasts would tour these locations. These sites have no interpretation and visitors would continue to arrive unaware of their role in the national historical park's history. This lack of visitor services would result in a moderate adverse impact on visitor experience at these locations.

Structures associated with the former private campground would not be maintained but would remain in place until funds become available to remove them. Their presence could adversely affect future visitor experiences detracting from the historic agricultural setting as trails are built on Schoolhouse Ridge north. Visitors to Schoolhouse Ridge, south could find, if not cleaned up, the tailings and collapsed quarry buildings located across

Millville Road unappealing, resulting in a minor long-term adverse impact.

The Murphy Farm

Visitor access to this location in the national historical park would continue to be on foot from the road gate or by the trail from the visitor center. There would be no on-site interpretation of the Civil War earthworks, but the John Brown's Fort foundation would be interpreted under this alternative. The lack of interpretation and convenient access would continue as a long-term minor adverse impact on visitor experience at this location.

The Nash Farm

There would continue to be limited public use and interpretation at this location, which would result in long-term negligible adverse impacts on the visitor experience.

Cumulative Effects

Tourists encounter a variety of opportunities in the three-state region centered on the confluence of the Shenandoah and Potomac rivers. Some of the choices include visiting Civil War battlefields and other historic sites, going to the races in Charles Town, river rafting, taking short walks, and long-distance hiking. Additional long- and short-distance trails are planned for the region. Access to improved trail systems would be a long-term benefit to visitor experience.

Other national park system units contributing to the educational and recreation opportunities in the region include Monocacy National Battlefield, Antietam National Battlefield, Chesapeake & Ohio Canal National Historical Park, Appalachian National Scenic Trail, Potomac Heritage National Scenic Trail, and the Lewis and Clark National Historic Trail, which is part of the national historical park.

The states of Virginia and Maryland have advertised programs called Civil War Trails that connect the various Civil War sites in those states by vehicle. Harpers Ferry is associated with many of these programs.

Current and future partnerships between the National Park Service, local businesses, and other federal and state historical site managers would improve interpretation and visitor opportunities in the region. These partnerships would provide additional interpretation, orientation, and visitor access to facilities and services and would improve the visitors experience at the national historical park and in the region. Having partners distribute national historical park material and orientation information would assist current and future visitors before they enter the park boundary.

This variety of high-quality experience opportunities in the region leads to an overall beneficial effect. When combined with the neutral and adverse effects of alternative 1, the overall cumulative effect on visitor experience would be minor and beneficial.

Conclusion

While implementing the no-action alternative would not create any new impacts on visitor use or experience, it would result in the continuation of actions and conditions that give rise to long-term minor adverse impacts on visitor experience. When combined with the neutral and adverse effects of alternative 1, the overall cumulative effect on visitor experience would be minor and beneficial.

SOCIOECONOMIC ENVIRONMENT

Alternative 1 would continue the current strategy of interpreting a 19th century community, including its historic buildings and landscapes. This would enable visitors to have a self-guided museum-type experience

that includes exhibits, brochures, and waysides. NPS rangers would host scheduled talks, periodic demonstrations, and infrequent special events.

Spending by visitors in the national historical park and in the gateway communities for meals, lodging, and other goods and services is important to the local economy. In this alternative it is expected that visitation would remain stable at current levels. The envisioned level of NPS visitor services and programs would continue to have a long-term, moderate beneficial effect on the local economy and a long-term, negligible beneficial effect on the regional economy. The local governments would continue to benefit from visitor spending in the form of business and occupation taxes. Although, the gross sales from retail and services have fluctuated with the amount and type of visitation, the no-action alternative would continue to have a long-term, minor beneficial effect on the business and occupation taxes that the gateway communities receive.

The National Park Service would continue to financially support some of the physical infrastructure in the gateway communities, and the national historical park's annual operating expenditures would continue to provide revenue for area businesses. The NPS budget originates from outside the local and regional economy through congressional appropriations, but the funds would continue to be spent mostly within the gateway communities and the regional economy, thus providing ongoing benefits.

As national historical park budgets decline or remain relatively stable, there is less revenue to flow through the local economy. NPS permanent and seasonal staffing continues to decline, having a long-term, moderate adverse effect on the economy of the gateway communities and a long-term, minor adverse effect on the regional economy.

The capital improvement budget of the national historical park would continue to provide short-term revenues in the gateway communities and regional economy. In alternative 1, it is expected that dollars available for capital improvement would remain stable or decline and thereby have a long-term, minor adverse impact on the gateway communities and a long-term, negligible adverse impact on the regional economy.

Cumulative Effects

In the past, Harpers Ferry National Historical Park had a growing visitation and then a decline to a stable annual visitation. The national historical park's operational budget remains stable but is not keeping up with inflation. Another effect on the national historical park's budget is the NPS response to other federal mandates that also contributed to a decline of permanent and seasonal NPS staff. The capital improvement program varies by year, with substantial increases and declines, and the program will continue to have short-term benefits.

The national historical park has a distinct but small fit in the overall size of the regional tourism industry. Both the gateway communities and the regional economies have growing populations and housing trends that have a substantially larger influence on the socioeconomic conditions than that contributed by the effect of the national historical park. These trends are expected to continue into the future.

The impacts of these other actions in combination with the impacts of alternative 1 would result in long-term, minor beneficial cumulative effects in the gateway communities and long-term, negligible cumulative effects on the regional economy.

Conclusion

Implementing alternative 1 would have a long-term, minor adverse impact on the gateway communities and a long-term, negligible adverse impact on the regional economy. There would be long-term, minor beneficial cumulative effects within the gateway communities and long-term, negligible beneficial cumulative effects on the regional economy. This alternative would contribute a small increment to the overall cumulative effect to the economy of the gateway communities and a slight increment to the regional economy.

NPS OPERATIONS

The current staffing at Harpers Ferry National Historical Park is approximately 100 people. Under the no-action alternative, some current vacancies could be filled; but no additional new positions would be created. Although the job will get done, NPS staff will be challenged to preserve and make ready for visitation the new lands added in 2004 while continuing to provide visitor services, maintenance, and protection for the entire national historical park.

Maintenance facilities on Camp Hill would continue to be somewhat cramped. Work-space, office space, and equipment storage space though now adequate could become a problem in the future.

Movement of heavy equipment and materials from semi-trucks on the narrow residential streets could cause conflict with neighbors.

Administration (NPS headquarters) would remain in the Morrell House and Brackett House where space is cramped. Additional staff office space would remain in Lower Town. These structures were not designed for the type of use they are receiving. Protecting historic fabric from wear and tear is a constant challenge.

There would continue to be no visitor center. A visitor contact facility at Cavalier Heights and an information desk in the Master Armorer's House provide visitor information and a national historical park brochure. Various buildings in Lower Town provide exhibits and films designed to help visitors understand the town's history. A bookstore in Lower Town and a smaller outlet at Cavalier Heights serve the need for further information. However, visitors expecting a traditional NPS visitor center with all functions in one location would be disappointed.

Law enforcement staff would be required to patrol a larger area with existing staff. Rangers would have less time to patrol trails or help visitors in emergencies, and would be required to spend more time in vehicles moving from unit to unit. City fire, police, and emergency vehicles response times would not likely be affected.

The no-action alternative would not adversely affect the Appalachian Trail Park Office or the Potomac Heritage National Scenic Trail Office. Headquarters for both would remain in Harpers Ferry. Depending on future space needs, space availability in national historical park buildings and funding available for a new office building, these offices might move or expand to Camp Hill. The trail route through the national historical park would continue to be maintained to its current standard.

Neither the Harpers Ferry Interpretive Design Center nor the Mather Training Center would be affected by this alternative. The national historical park would continue to maintain the structures and surrounding landscape. A proposed dormitory for the Mather Training Center would be constructed if funding became available.

Cumulative Impacts

In general, the national historical park staff is faced with a rising workload resulting from

new NPS initiatives and program requirements. Static base funding does not allow the hiring of more employees to alleviate the workload. This causes stress on the employees and some needed projects are not accomplished due to a lack of time or funding.

This alternative would contribute short-term adverse effects and long-term beneficial impacts to the effects listed above. The cumulative effects on NPS operations would be negligible and beneficial.

Conclusion

The no-action alternative would result in long-term minor adverse impacts on staffing, maintenance, and law enforcement. There would be no change in emergency response times. The cumulative effects on NPS operations would be negligible and beneficial.

UNAVOIDABLE MODERATE TO MAJOR ADVERSE EFFECTS

Alternative 1 would result in minor adverse impacts on museum collections that remain within the flood hazard areas.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Civil War earthworks would continue to erode and return to the earth as part of their natural process of decay and deterioration resulting from environmental causes and human induced actions. These deteriorations would continue and would result in an irreversible loss of historic defensive structures associated with an important aspect of Harpers Ferry's history.

This alternative would not result in any new development and, therefore, would not result in any irreversible or irretrievable commitments of natural resources.

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

Alternative 1 would result in limited new development and, thus would have the lowest potential for a reduction in long-term productivity.

IMPACTS OF ALTERNATIVE 2 — PREFERRED

CULTURAL RESOURCES

Historic Structures

To appropriately preserve and protect national register-listed or -eligible historic structures, all stabilization, preservation, rehabilitation, and restoration efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during rehabilitation efforts would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work at the sites. Stabilization, preservation, and rehabilitation would have no adverse effects on historic structures.

Lower Town. The exteriors of historic buildings would continue to be preserved and maintained. Adaptive reuse of these buildings could alter the original historic fabric. However, any such alterations would follow the *Secretary's Treatment Standards*, ensuring that there would be no adverse effect to the qualities that make the property eligible for inclusion in the national register.

Federal Armory. Providing handicapped accessibility to the armory could require modifying the historic railroad berm by building a tunnel through the berm. Another route would be to use the vomitorium and construct a walkway along the Potomac River cantilevered off the river wall. A third possibility would be to ramp down the berm into the armory yard from the accessible overlook at the train station. All solutions would provide access to the lower armory grounds. Two of the solutions would affect the berm while the other would affect the historic river wall. Building a tunnel through the berm would remove a portion of the historic fabric of the berm but would be less visually obtrusive than a ramp down that would not require removal of historic fabric. The ramp solution would cover much of the river side of the berm and require anchoring into it. The solution that uses the vomitorium would be visually less obtrusive because it would skirt the edge of the site, but it would be anchored into the river wall. The tunnel solution would be permanent, while the other two solutions could be reversed. All solutions would likely have an adverse effect.

Virginius Island / Hall's Island. Stabilization of foundation ruins would help protect them from further flood damage. Any artifacts associated with the ruins would be recovered through archeological methods. The archeological context of the resources would be documented. The overall impact of this work would not be adverse.

Potomac River Frontage. Incrementally restoring the Armory canal and associated structures would improve the preservation integrity of this historic site. The necessary repairs and other restoration work would benefit the structures through improving their longevity, resulting in no adverse effect.

Rehabilitation of the Potomac Power Hydroelectric Plant would allow it to be used by the national historical park for purposes such as a workshop for the NPS Historic Preservation Training Center, interpretation, or a material storage area. Some historic fabric could be removed in this alternative. NPS staff would work with the West Virginia state historic preservation office to mitigate any adverse effects. Limited restoration would result in no adverse effect to the building.

Camp Hill. Harpers Ferry National Historical Park headquarters would remain in the Brackett and Morrell houses. Those structures would undergo rehabilitation to better accommodate the function. In addition,

areas of the Lockwood House not used for interpretation could also become office space for park staff.

The Lockwood House would be rehabilitated and the first floor would house a major African American history exhibit and public restrooms serving Camp Hill visitors. The results of such rehabilitation would be expected to have no adverse effect on these historic structures.

Loudoun Heights, Maryland Heights, Short Hill. After evaluation for inclusion in the National Register of Historic Places, select standing structures would be removed or would be allowed to molder through natural processes. There would be no effects to historic buildings by the implementation of this alternative.

This alternative would increase the stabilization and preservation of the remaining structural ruins through development and implementation of a preservation plan for Civil War earthworks, campsites and other defensive works. These preservation activities would be a benefit by reducing the deterioration of structural ruins. As a result, implementation of this alternative would have no adverse effect.

Schoolhouse Ridge. After evaluation for inclusion on the National Register of Historic Places, nonhistoric buildings and structures, including those at the former Jellystone campground and Harpers Ferry Caverns, would be removed. If National-Register-eligible structures were removed, the National Park Service would mitigate any adverse effects in consultation with the state historic preservation office and the Advisory Council on Historic Preservation.

Alternative 2 would increase the stabilization and preservation of the remaining structural ruins on Schoolhouse Ridge through development and implementation of a preservation plan for historic and Civil War earthworks, campsites and other defensive works. The preservation activities would be a benefit by reducing the deterioration of these structural ruins. As a result, implementation of this alternative would range from no adverse effect to an adverse effect.

Murphy Farm. Stabilization and preservation of the John Brown's Fort foundations would have no adverse effect on this structure.

Implementation of the alternative would increase the stabilization and preservation of the Civil War earthworks. The resulting impact would reduce the deterioration of these sites. Therefore, implementation of this alternative would have no adverse effects.

Nash Farm. Rehabilitation of the exteriors of the primary residence and barn would maintain the appearance of the historic dairy farm. The interiors would be rehabilitated for use as an education facility, dormitory, and residence. This rehabilitation would have no adverse effect on historic properties.

Potomac Terrace. Grandview School would be rehabilitated for use by the Resources Protection and Public Use Management Division. This rehabilitation would be primarily limited to the interior of the structure and would include an exterior addition for vehicles and storage. Such rehabilitation efforts would likely impact some historic fabric. However, careful design in consultation with the West Virginia state historic preservation office would ensure the impacts would be minimal and result in no adverse effect to the historic buildings.

Cumulative Effects — Since the congressional authorization of the national monument in 1944, removal of 35 structures identified as either unsafe, unstable, or not in keeping with the 19th century period of significance has occurred. These removals occurred primarily in Lower Town, although several structures on Camp Hill were also

removed. The removal of many of these structures from the national historical park left gaps in the 19th century community that today would be considered adverse.

Since the creation of the national historical park, many restoration and rehabilitation projects have been accomplished, resulting in the preservation of historic structures. These structures were generally located along Shenandoah Street and consisted of a wide range of building types though primarily commercial and residential. In general, the rehabilitation of these buildings resulted in their long-term preservation and had no adverse effect.

The Armory fire engine and guard house, known as John Brown's Fort, was moved several times and reconstructed to its appearance at the time of the raid. However, the history of the building and it role have not been lost because of its restoration. These impacts vary from adverse to beneficial.

External to the national historical park boundaries, population growth associated with metropolitan Washington, D.C., has impacted the use and character of historic buildings in the area. Use of historic structures has altered the historic fabric and impacted the historic elements of the structures. In addition, actions such as weathering, lack of maintenance, or structural modifications have contributed to the impacts to historic structures. The overall impact of urbanization on historic structures in the Harpers Ferry area has been mixed as many historic structures have been lost while others have been saved and restored. As described above, the potential impacts associated with implementing alternative 2 would result in predominantly no adverse effects on the national historical park's historic structures. However, the few potential adverse impacts associated with alternative 2, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 2 would only contribute minimally to the adverse cumulative impact.

The overall effects of these actions on historic structures have been adverse. This alternative would contribute both adverse and beneficial effects. This alternative's contribution to these effects would be minimal.

Conclusion — The impacts of alternative 2 on historic structures would be generally positive and minimally adverse and would only contribute minimally to the adverse cumulative impact.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Archeological Resources

Archeological resources adjacent to or easily accessible from trails and developed areas could be vulnerable to surface disturbance, inadvertent damage, and vandalism. A loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence could result. However, continued ranger patrol and emphasis on visitor education would discourage vandalism and inadvertent destruction of cultural remains, and any adverse impacts would be expected to be minimal if any.

As appropriate, additional archeological surveys would precede any ground disturbance associated with excavation, construction, or demolition, e.g., construction or improvement of foot trails, installation of wayside exhibits or other media, and construction of a museum collections storage facility and a pedestrian

bridge or tunnel. National register-eligible or -listed archeological resources would be avoided to the greatest extent possible. If such resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the appropriate state historic preservation officer.

Before demolition of any national register-listed or -eligible structure, a survey for archeological resources in the general vicinity of the affected structure would be conducted. The excavation, recordation, and mapping of any significant cultural remains, if present, would be completed before demolition to ensure that important archeological data that otherwise would be lost is recovered and documented. Any impacts on archeological resources would be adverse.

Federal Armory. This alternative would expose archeological ruins at the federal armory for interpretive purposes. Archeological investigations at the Federal Armory would have no adverse effects on the resources.

Virginius Island / Hall's Island. The stabilization and ghosting of foundations on Virginius Island would require archeological excavations to identify and document the archeological record. Likewise, construction of a pedestrian bridge adjacent to the existing vehicular bridge on Shoreline Drive could require archeological investigation. Archeological work under this alternative would result in no adverse effects to the resources.

Potomac River Frontage. Incremental restoration of the Armory canal to a semblance of its historic appearance would necessitate archeological investigations. Excavations would be conducted as part of the documentation process and to better understand construction methodology of this feature. This work would also aid in the protection of archeological materials that might otherwise be lost. Such archeological work would result in a determination of no adverse effect.

Loudoun Heights. Following archeological evaluation, construction of an overlook and parking at the location of the Sherwood house would be designed to avoid disturbance of any historic or archeological remains. There would be no effect to such resources.

Maryland Heights. Alternative 2 would increase the stabilization activities of archeological sites including historic Civil War earthworks and other defensive works. The preservation activities would reduce the effects of deterioration over time. As a result, implementation of this alternative would have no adverse effects.

Cumulative Effects — Past development in the national historical park may have resulted in the disturbance and loss of some archeological resources during excavation and construction activities. Also, agricultural practices and the development and expansion of communities in and near the park may also have previously disturbed archeological resources. The continuation of current activities could also result in future adverse impacts on archeological resources.
As described above, implementing alternative 2 could potentially disturb archeological resources at the national historical park — resulting in adverse effects. Any adverse impacts associated with the implementing alternative 2, in combination with the impacts of other past, present, and reasonably foreseeable future projects, would result in adverse cumulative impacts. However, alternative 2 would be expected to contribute only minimally to the adverse cumulative impacts. Thus, any adverse impacts on archeological resources resulting from implementation of alternative 2 would be a very small component of the adverse cumulative impact.

Conclusion — Alternative 2 would require archeological investigations associated with

stabilization/ preservation of foundations or structures within the national historical park. Investigations would be coordinated with the West Virginia state historic preservation officer under the requirement of Section 106 of the National Historic Preservation Act of 1966, as amended. The actions associated with this alternative could have adverse impacts on archeological resources. The actions associated with this alternative would contribute only minimally to the adverse impacts of other past, present, or foreseeable future actions.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Cultural Landscapes

To appropriately preserve and protect national register-listed or -eligible cultural landscapes, all stabilization, preservation, and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Stabilization, preservation, and rehabilitation would have no adverse effects on cultural landscapes.

Careful design would ensure that the improvement and construction of trails would minimally affect the scale and visual relationships among landscape features. In addition, the topography, vegetation, circulation features, and land use patterns of the landscape would remain largely unaltered by such actions, resulting in no adverse effect.

The under-grounding of utilities would have minimal, if any, effect on the existing topography, spatial organization, or land use patterns of cultural landscapes. Once the underground utility line is installed and the trench is backfilled, the disturbed ground would be restored to its preconstruction contour and condition. No adverse effects would be anticipated.

Lower Town. In The Green and Hamilton Street areas, foundations of historic structures would be outlined or noted by signs. Stabilization and preservation activities could occur on exposed ruins. These actions would have no adverse effect on the cultural landscape. Regulation of the use of private and NPS vehicles during special events in the Lower Town would for a specified time remove a modern intrusion from the historic setting. The reduction of modern vehicles from Lower Town would be regulated by a Town of Harpers Ferry/NPS traffic control plan and would have no adverse effect.

Federal Armory. Accessibility for the handicapped could be achieved either by tunneling through the railroad berm, cutting a sloping trail in the side of the berm or by way of a trail through the vomitorium and along a walkway cantilevered off the river wall. All methods could affect the appearance of the armory. The effect could be adverse on the cultural landscape, but could be mitigated through sensitive design.

Identification of structural ruins on the Armory grounds by uncovering foundations would facilitate interpretation and improve the visual appearance. The overall effect would not likely be adverse.

Virginius Island / Hall's Island. Identification of structural ruins would be accomplished through signs at these ruins. A pedestrian walk next to the vehicle bridge on Shoreline Drive would add a nonhistoric feature to the landscape. The impacts would be minimal and reversible and would result in no adverse effect to the cultural landscape.

Potomac River Frontage. The armory canal would be incrementally restored and rewatered, returning it to a semblance of its historic appearance. Restoration of the armory canal would have no adverse effect on the cultural landscape.

Camp Hill. Implementation of a period lighting plan would help to restore a semblance of the historic college campus. It would unify the landscape of Camp Hill and would be less obtrusive than the existing lighting systems. Such changes would result in a determination of no adverse effect.

Rehabilitation of the Shipley School through a partnership would retain a historic structure and have no adverse effect on the streetscape.

Loudoun Heights, Maryland Heights, and Short Hill. Nonhistoric structures at Loudoun Heights would be removed in this alternative. Removal of such structures would help create a more accurate historic landscape. Removal of nonhistoric structures would result in no adverse effect to the cultural landscape.

Increased numbers of interpretive signs would be installed on Maryland Heights in this alternative. The installation of these signs could impact historic vistas. However, it would be expected that with sensitive placement there would be no adverse effect on the cultural landscapes of Maryland Heights. The historic viewshed of Maryland Heights from Lower Town could be altered as the result of opening some "field of fire" vistas of Civil War artillery by selective removal of vegetation. The removal of vegetation would enhance the semblance of the historic artillery emplacements and would have no adverse effect on cultural landscapes.

Schoolhouse Ridge. The campground and other select structures would be removed and the land restored to a more historically accurate setting. Schoolhouse Ridge would be maintained as battlefield landscape using agricultural leases to maintain the rural landscape condition. By returning Schoolhouse Ridge to its historic agricultural condition, there would be no adverse effect on the cultural landscape.

Nash Farm. Rehabilitation of the existing farm structures would maintain the appearance of an active dairy farm that would coincide with the predominant period of significance for the National Register-listed property. The dairy farmscape would be preserved using an agricultural lease. This would result in minimal change to the cultural landscape and therefore would have no adverse effect.

Cumulative Effects — During the first half of the 20th century several major flooding episodes inundated what is now Harpers Ferry National Historical Park. The most extensive impacts changes have occurred in Lower Town where the loss of buildings has changed the appearance of the streetscape of Shenandoah Street near the Green and Hamilton Street areas. The consequence was an adverse effect on the historic viewshed.

In 1969 John Brown's Fort was moved from Storer College to its present site, about 50 yards from its original location. It was not possible to move the fort to its original location due to the construction of the B&O railroad berm. The structure's proximity to the original location has beneficial impact on the cultural landscape. Its return has resulted in no adverse effect.

The elimination of historic streets to the Shenandoah River and the creation of nonhistoric pedestrian trails have resulted in changes in access and movement through a considerable section of Lower Town. In addition, reconfiguring the circulation pattern of the national historical park by the addition of a connector road between the Cavalier Heights Visitor Center and Lower Town has generally had an adverse effect to the cultural landscape. However this is offset by the

elimination of the adverse impacts of vehicles and river recreation use on the historic resources of Lower Town. Revegetation of the Green and Hamilton Street areas with turf grasses does not accurately reflect the vegetation of any of the historic periods identified in the national historical park and is an adverse effect to the cultural landscape. However it does eliminate severe erosion during floods and helps protect archeological resources in place.

Historic land use patterns representative of a previously living community have been altered through the imposition of the national historical park on to the town. The functions of a national park system unit are very different from those of a quiet small town. The result may be an adverse effect on the historic landscape.

Through stabilization, rehabilitation, and ongoing maintenance, Harpers Ferry National Historical Park has provided protection and preservation of historic structures that have been subjected to numerous floods that affected the upkeep of the town. The benefit of these efforts has been to maintain a semblance of an historic townscape, and has resulted in no adverse effect.

Beyond the national historical park boundaries population growth, primarily associated with metropolitan Washington, D.C., has altered the character of the historic cultural landscape. Alterations to transportation corridors have affected the landscape. The result has been an adverse effect on the rural character of the cultural landscape surrounding the national historical park.

As described above, the potential impacts associated with implementing alternative 2 would result in both no adverse effects and adverse effects on the national historical park's cultural landscapes. The adverse impacts of alternative 2, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 2, however, would only contribute minimally to the adverse cumulative impact.

Conclusion — The impacts of alternative 2 would generally be described as not adverse. The actions associated with this alternative would therefore be expected to contribute only minimally to the adverse impacts of other past, present, or foreseeable future actions. Although the cumulative impact would be adverse, any adverse impacts to cultural landscapes resulting from implementation would be a very small component of the cumulative impact.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

NATURAL RESOURCES

Wetlands and Water Resources

In this alternative, the historic Armory Canal would eventually be rewatered, maintaining this wetland/water body in the national historical park. Natural processes would be allowed to occur in the water which, as water-dependent plants and organisms colonize, would result in an enhanced wetland area of approximately 2 acres. This and all other wetlands in public use areas would be monitored and actions taken if necessary to prevent adverse impacts from visitor use or NPS operations. These actions would result in long-term, minor beneficial impacts to water resources in the national historical park.

Construction of a headquarters building; visitor service facilities such as parking areas and vault toilets on Schoolhouse Ridge, the Nash farm, and the Murphy farm; and expansion of the facilities on Cavalier Heights would have the potential to impact water runoff and percolation patterns, resulting in long-term adverse impacts. Applying mitigative measures such as sedimentation check dams would make these impacts negligible in intensity.

The preferred alternative would not result in any actions that would conflict with the goals of the Chesapeake Bay Program because it would not result in a loss of riverside resource lands or contribute to degradation of water quality.

Cumulative Effects — Water resources in the Potomac and Shenandoah river basins have been adversely affected by 200 years of human use and activity. Agricultural practices, including the use of fertilizers and pesticides, are primary contributors to contamination of the streams and rivers. Both domestic and industrial wastes are also sources of water pollution in the region. The loss of forest cover, changes in land use, and waste from industries have adversely affected water quality (chemicals in runoff, sedimentation from erosion, etc.). These sources of water quality degradation are located outside national historical park boundaries. Illegal activities such as inadequate or nonfunctioning septic systems, dumping of waste in the rivers, or unauthorized horse use near waterways also adversely affects water quality.

The Chesapeake Bay Program is an interstate and interagency effort intended to protect and restore the entire Chesapeake Bay watershed. The National Park Service is a partner in this effort. Contributing to degradation of the watershed is increased urban and rural development. This leads to (1) fragmentation and loss of resource lands and (2) increased impervious surfaces that cause degraded water quality. This ongoing effort will result in long-term major beneficial impacts to the watershed.

Use of river water for irrigation, Industry, and domestic uses has adversely affected water quantity. Establishment of the national historical park and implementation of Chesapeake Bay Program protection initiatives have contributed long-term benefits to water resources in the region.

Some wetlands within the region have been filled in to make more land available for development. This practice decreases wetland areas and removes their natural beneficial values. Closure of the water-powered industries and nonuse of the Shenandoah Canal has led to the creation of a wetland on Virginius Island. This is a beneficial effect that may offset the loss of other wetlands in the region.

Alternative 2 would contribute a long-term, beneficial component and a negligible short-term adverse component to these effects but the resulting cumulative effect of this alternative in conjunction with the impacts of other past, present, and future actions would be minor and adverse.

Conclusion — Alternative 2 would result in long-term, minor beneficial impacts to wetlands and a long-term negligible adverse impact to water resources in the national historical park. Cumulative effects would be minor and adverse. There would be no impairment of this national historical park resource as a result of this alternative.

Floodplains

This alternative would not result in any additional development in floodplains. There would be a small change in land use in the floodplains on Virginius and Hall's islands in the form of additional treatment of cultural resources. However, since these areas have been developed for 200 years, this action would have no additional effects on floodplains.

A small enhancement of the river take-out at Potoma Wayside is proposed for the floodplain. This would most likely involve a hardened ramp or pad at the take-out for use by the commercial rafting companies. The pad would be designed so that impacts on water flow and increased scouring of substrate at high water would be minimal. Construction and use of the take-out facility would have long-term, negligible adverse impacts on floodplains.

This alternative would not result in any actions that would conflict with the goals of the Chesapeake Bay Program because it would not result in a loss of riverside resource lands or an increase in impervious surfaces that is more than negligible.

Cumulative Effects — Floodplains of the Potomac and Shenandoah rivers have been adversely affected by 200 years of human use and activity. Construction of roads, canals, housing and commercial development has adversely affected the original floodplains. Riverside walls or berms and reinforced banks have constrained the natural meandering of the rivers. These adverse impacts would continue.

Establishment of the national historical park and preservation of riverside natural areas such as Loudoun Heights and Short Hill has preserved the beneficial values of the floodplains along those undeveloped areas. Floodplains would continue to be adversely affected by the development that prevents natural river movement and sediment deposition.

The Chesapeake Bay Program is an interstate and interagency effort intended to protect and restore the entire Chesapeake Bay watershed. The National Park Service is a partner in this effort. Contributing to degradation of the watershed is increased urban and rural development that leads to (1) fragmentation and loss of terrestrial habitat and (2) increased impervious surfaces that causes degraded water quality. This ongoing effort will result in long-term major beneficial impacts to the watershed.

Implementing the preferred alternative would contribute a negligible adverse effect and, when combined with the impacts of other past, present, and future actions, would result in moderate adverse cumulative effects on floodplains in the region. Alternative 2 would contribute only slightly to these overall cumulative effects.

Conclusion — This alternative would cause long-term, negligible adverse impacts on floodplains. Cumulative effects in the region would be moderate and adverse. There would be no impairment of a key national historical park resource or value as a result of this alternative.

Soils

Construction of visitor service facilities such as small parking areas at Schoolhouse Ridge, the Nash farm, the Murphy farm, and expanded facilities on Camp Hill and Cavalier Heights would disrupt soils. These sites total approximately 5 acres. There would be short-term adverse effects as soils would be further disturbed and subject to increased wind and water erosion until vegetation recovers. Long-term adverse effects in the form of disrupted soil properties would occur where new facilities are constructed. Construction would be localized and primarily in previously disturbed areas. Mitigating measures such as prompt revegetation and silt fencing would be employed to reduce potential adverse impacts. The impacts of this alternative would be short and long term, minor, and adverse.

Cumulative Effects — Soils in the region have been disrupted by commercial, residential, and agricultural development and use over the last two centuries. Foreseeable future actions of further development in the vicinity of the national historical park would adversely

impact soils through compaction and displacement from construction activities for roads, residential and commercial development, and associated infrastructures. These actions lead to long-term moderate adverse impacts.

This alternative would contribute a localized, minor adverse impact to these effects and when combined with the impacts of other past, present, and foreseeable future actions would have moderate adverse cumulative effects on the soil resource.

Conclusion — The impacts of implementing the preferred alternative would be short and long term, minor, and adverse. There would be a moderate adverse cumulative effect on soils. There would be no impairment of this national historical park resource as a result of this alternative.

Cave and Karst Resources

Under this alternative, Harpers Ferry Caverns would be restored by removing the intrusions introduced when the caverns were open for commercial tours. Natural airflow would be restored as much as possible and a bat friendly gate installed, if required. Management of the John Brown Cave would continue as present, not allowing public use. Trash and graffiti in the cave would be carefully removed. These actions would result in long-term, minor to moderate beneficial impacts to cave resources.

Cumulative Effects — Subterranean ecosystems are typically in an extremely delicate balance and easily disrupted. Natural processes can change the cave environment — such as daily exchanges of air, introduction of organic material from water flow or large animals, and rock fall closing an entrance or passageway.

Humans entering the John Brown Cave have adversely affected the cave environment through littering and vandalism (graffiti, breaking formations). Fortunately, the back two-thirds of the cave is protected by a sump (water-filled passage) that prevents intruders from entering further.

Harpers Ferry Caverns was once developed commercially and opened for tours. Development included electric lights, walking trails, stairs and handrails. In addition, the entrance sinkhole was roofed over and an exit tunnel was created. These developments altered the cave considerably by:

- Heating and drying the air, affecting growth of speleothems and climate for cave-adapted animals
- Closing off natural flow of both water and air. Many forms of life rely on the input of waterborne or airborne organic matter
- Introducing foreign matter that can disrupt ecosystems such as lint, microbes, rusting metal, etc.

These human-caused changes are short-and long-term, minor to moderate adverse impacts. Alternative 2 would contribute long-term, minor to moderate beneficial impacts to cave resources and when combined with the impacts of other past, present, and future actions would result in minor, adverse cumulative effects.

Conclusion — Alternative 2 would result in long-term, minor to moderate beneficial impacts on cave resources. Cumulative effects would be minor and adverse. There would be no impairment to this resource as a result of this alternative.

Vegetative Communities

Under this alternative, there would be continuation of some vegetative manipulation such as clearing or trimming in certain areas on Maryland Heights, Bolivar Heights, Schoolhouse Ridge, and the Murphy farm in order to maintain historic or scenic vistas. This would be limited to small, isolated areas

and would occur that have been previously disturbed. Adverse impacts from this activity would be long-term, adverse, and negligible to minor.

Agricultural leasing would continue to be used on Schoolhouse Ridge Battlefield and Murphy farm to maintain the historic landscape. This activity would occur on areas of unnatural vegetation communities (crops), so adverse impacts from these actions to native communities would be long-term but negligible.

Construction of visitor service facilities such as small parking areas on Schoolhouse Ridge and at the Nash farm and the Murphy farm, and the expanded facilities on Camp Hill and Cavalier Heights would alter existing vegetation. This construction would involve about 5 acres, but because it would occur in previously disturbed areas, the adverse impacts would be long-term and minor.

Allowing the Armory Canal to rewater would inundate and kill some vegetation. Over time, hydrophilic vegetation would become established, resulting in both adverse and beneficial impacts.

Continuing control of nonnative species would benefit native vegetative communities.

Cumulative Effects — Native vegetation in the region has been systematically disturbed for thousands of years. From early Native American cultures through the Industrial era, humans relied on the vegetation for food, fuel and shelter. As more people came into the region, nonnative plants came with them. These actions adversely altered the vegetation throughout most of the region. The vegetation has changed from natural, old-growth hardwood forests after being essentially denuded of trees for fuel, building material, and artillery firing lines by the late 19th century. Native, old-growth communities remain only on steep slopes or otherwise inaccessible land. Many decades of agricultural operations have eliminated native communities on portions of the Murphy farm, the Nash farm, Bolivar Heights, and Schoolhouse Ridge. Small social trails occur in almost all areas of the national historical park. These are unplanned and unmaintained trails created by visitors that damage vegetation, disrupt animal habitats, and cause soil erosion.

Seeds carried by wind and humans have created infestations of noxious weeds and other invasive plant species. These species cause long-term adverse impacts on native vegetation by competing for available resources such as water and nutrients.

These actions have resulted in long-term moderate adverse impacts on native vegetation. The establishment of Harpers Ferry National Historical Park has resulted in moderate beneficial impacts to vegetation through protection of native vegetation in outlying areas and nonnative species eradication efforts.

The long-term adverse impacts caused by residential and commercial development would be expected to continue.

This alternative would result in a minor adverse impact. When combined with the impacts of other past, present, and future actions, alternative 2 would result in minor adverse cumulative effects on vegetative resources.

Conclusion — Alternative 2 would result in long-term, minor adverse impacts on vegetative communities. The cumulative effects would be minor and adverse. There would be no impairment of this resource as a result of this alternative.

Fish and Wildlife

Construction in this alternative would occur predominantly on previously disturbed land at

Cavalier Heights, Camp Hill, Schoolhouse Ridge, the Murphy Farm, and Bolivar Heights. Disturbed land provides less desirable wildlife habitat when compared to undisturbed land and so both the short-term disturbance of wildlife and further impacts on habitat connections throughout the area are minimized. The adverse impacts of construction on wildlife habitat would be short and long term but negligible.

Construction of new trails around the national historical park would cause a temporary and localized disturbance of animals in the area, resulting in short-term, minor adverse impacts to wildlife. After construction, human use of these trails would cause some fear and avoidance reactions in wildlife that are near the trails, resulting in long-term minor adverse impacts.

Use of the outlying natural areas (Maryland Heights, Loudoun Heights, and Short Hill) by visitors and NPS staff is not likely to change as a result of this alternative. In addition, there would be no actions that would impact identified fish habitat, so there would be no change affecting fish or wildlife in these areas.

Monitoring of deer population on Maryland Heights, and continued participation in peregrine falcon reintroduction would result in long-term benefits to the regional ecology.

Cumulative Effects — Actions affecting wildlife are occurring in the region around Harpers Ferry as a result of agriculture and urban development. Certain actions occurring on private, state, and federal land can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has affected the abundance and diversity of wildlife by changing the capacity of habitats to provide necessary food, shelter and reproduction sites. Wildlife is slowly becoming more restricted by current land uses, increasing development and human activity, causing individuals and populations to either adapt or move. This has resulted in minor to moderate adverse impacts. The presence of human visitors in the backcountry areas can disturb wildlife, resulting in long-term negligible to minor adverse impacts.

Establishment of the national historical park has resulted in long-term benefits for fish and wildlife populations. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to continue. These protected areas in the national historical park are highly important because of the quality fish and wildlife habitat they provide. Hunting is prohibited in the national historical park and the white-tailed deer population on Maryland Heights has increased to the point where it is being evaluated for signs of ecological damage.

Continued population growth in Maryland and West Virginia would reduce habitat available to wildlife species, resulting in long-term minor to moderate adverse impacts.

Ongoing actions potentially affecting fish and wildlife populations such as visitor use, facility maintenance, and natural resources management would continue. NPS programs such as species inventory and monitoring and removal of nonnative species continue to benefit native animal populations.

This alternative would result in long-term negligible adverse impacts and long-term, minor beneficial impacts. When other past, present, and future actions are considered in combination with proposals in this alternative, there would be negligible to minor adverse cumulative effects on fish and wildlife resources.

Conclusion — Implementing this alternative would result in long-term negligible adverse impacts and long-term minor beneficial impacts. Cumulative effects would be negligible to minor and adverse. No impairment of any fish or wildlife species would occur.

Special Status Species

The construction proposed in this alternative would not occur in habitat supporting listed species. Use of the outlying natural areas (Maryland Heights, Loudoun Heights, and Short Hill) by visitors and NPS staff is not likely to change as a result of this alternative, so there would be no change affecting sensitive plants or wildlife in these areas.

There would be no change to existing land uses near the eagle nest in the Potomac River, or potential bat rooting sites; so there would be no effect on bald eagles or bats.

Allowing the Armory Canal to rewater would inundate and destroy some vegetation, including some rare plants. This action would result in long-term adverse impacts on individuals of state species of concern, but is not likely to result in a loss of viability in the planning area or cause a trend toward federal listing or a loss of species viability range-wide. Overall, adverse impacts on special status plants from implementing this alternative would be minor.

Inventory and monitoring of state and federally listed species would continue and protective measures implemented when necessary.

Cumulative Effects — Habitat loss or disruption is the most common reason for a terrestrial wildlife or plant species to become threatened or endangered. Loss or fragmentation of habitat has occurred in the region as a result of commercial and residential development, and agriculture. Human-related land uses on private, state, and federal land have disrupted or fragmented habitat, displaced individuals, or otherwise caused stress to animals. Incremental development of the region has changed the capacity of habitats to provide necessary food, shelter, and territory, resulting in the decrease of population numbers. Past impacts on threatened and endangered species in the region from human activities have been moderate to major and adverse.

Establishment of the national historical park has resulted in long-term benefits for special status species. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to occur. These protected areas in the national historical park will become increasingly important in providing quality habitat for rare species in the region. Ongoing NPS programs such as rare species inventory and monitoring and removal of nonnative species continue to benefit animal, fish and plant special status species.

Given the lack of information regarding the exact extent of impacts outside the national historical park, it is difficult to assess the relative scope of the impacts of this alternative compared to current and anticipated future actions in the region.

Residential development in Maryland and West Virginia would continue to reduce habitat for special status species, resulting in long-term minor to moderate adverse impacts on these species.

This alternative would contribute a beneficial and an adverse component to the impacts of other past, present and foreseeable future actions, and the cumulative impacts to listed, candidate or other special status species would be moderate and adverse.

Conclusion — Implementing alternative 2 would have no effect on bald eagles, bats, or federal species of concern. There would be long-term, minor adverse impacts on state listed plants in the Armory Canal. Cumulative impacts to listed, candidate or other special status species would be moderate and adverse, due mostly to actions outside the national historical park. No impairment of a special status species would occur as a result of this alternative.

Soundscapes

Working with the state and federal departments of transportation to reroute U.S. 340 out of the river valleys would result in long-term moderate beneficial impacts on soundscapes in most areas of the national historical park. Construction to enlarge the visitor contact station and bus maintenance facility at Cavalier Heights would cause short-term adverse impacts to the soundscape in that area. However, this area is in a zone where more human-related noise is acceptable.

Construction of small parking areas and facilities at Murphy Farm, Schoolhouse Ridge Battlefield, and the Nash Farm would create short-term, minor adverse impacts on soundscapes in those areas. There would be long-term, negligible adverse impacts from visitor use-related noise as visitation would increase in these areas that are now rarely visited. Natural soundscapes in the outlying areas (Scenic/Natural Preservation Zone) would not be affected.

Cumulative Effects — Portions of the national historical park are located in an urban setting where human-caused sounds tend to dominate. Lower Town has been part of a noisy, bustling community for almost 200 years. Because Harpers Ferry is a national historical park, visitors do not come here expecting the quieter, intermittent sounds of nature. However, this experience is available in the natural areas of the park.

Disruptions to natural soundscapes come from human activities inside and outside the national historical park. Traffic on Highway 340 creates constant noise and trains on the rail lines create considerable aural impacts throughout the day. Sounds of a modern town such as vehicles, phones, and air-conditioning units, have intruded on the historic setting in Lower Town.

Continuing trends of population growth in the area would result in additional adverse impacts on natural soundscapes.

This alternative would contribute a moderate beneficial impact and negligible adverse impact to the combined effects of other past, present and foreseeable future actions, resulting in beneficial cumulative impacts on the national historical park's soundscapes.

Conclusion — Alternative 2 would result in short-term minor adverse impacts, long-term moderate beneficial impacts, and long-term negligible adverse impacts on soundscapes in the national historical park. There would be beneficial cumulative impacts. No impairment of soundscapes would result from this alternative.

Lightscapes

Following NPS policy, existing outdoor lighting that is found to be contributing to nighttime light pollution would be replaced with fixtures that are more sensitive to the resource. In addition, any new outdoor lighting installed as a result of implementing this alternative would be the minimum necessary for safety or security and of a design that prevents stray light from spreading upwards into the sky. NPS staff would work with surrounding communities on ways to decrease light pollution in the region. With these standard practices, this alternative would have a long-term, minor beneficial impact on the national historical park's lightscape.

Cumulative Effects — The clarity of night skies over the national historical park has been diminished by artificial light sources both within and outside the national historical park that creates a haze of light that obscures views of stars and distant topographic features. The primary culprit is outdoor lighting of a type that allows light to shine up into the sky. Outdoor lighting is common throughout the region, including inside

national historical park boundaries. Creation of the national historical park's natural areas has a long-term beneficial impact by maintaining lightless areas.

As development in the areas around the park increases, the amount of light pollution would likely increase.

This alternative would contribute a beneficial impact to these effects, resulting in the overall cumulative effects being minor and adverse.

Conclusion —This alternative would have a long-term, minor beneficial impact on lightscapes. Overall cumulative effects would be minor and adverse. There would be no impairment of a key national historical park resource or value as a result of this alternative.

VISITOR EXPERIENCE

Under alternative 2, national historical park visitors would have opportunities to engage in a larger variety of recreational activities, have access to new facilities, and participate in new interactive experiences. Exhibits and displays at the visitor center would present the general story of Harpers Ferry and introduce the interpretive themes. Interpretive media at specific locations in the national historical park would present the history of that site. This improved interpretation would have a major beneficial impact on visitor experience. More areas of the national historical park would become available to visit via connecting trails under this alternative and be connected through a portable Civil War interpretive program such as an audio program available in cars or over cell phones.

Lower Town

The level of interpretation in Lower Town would be increased in this alternative. More "life" would be introduced through more authentic shop interiors, artisans, and additional historical interpretation. NPS staff or volunteers would provide guided tours and demonstrations. Modern intrusions such as vehicles would be reduced by a traffic control plan during special events coordinated among the national historical park, the town of Harpers Ferry, and Main Street Harpers Ferry. These actions would provide more of an historical immersion experience resulting in short-term, minor beneficial impacts.

Federal Armory

Under this alternative, there would be on-site interpretation of the armory grounds and foundations of the historic structures would be marked so that visitors could visualize the layout of the armory. An accessible trail to the grounds would be constructed. These actions would result in long-term minor beneficial effects on the visitor experience at this location.

Potomac Frontage/Armory Canal

The historic armory canal would be re-watered and the former Potomac Power Hydroelectric Plant turned into an interpretive facility. Visitors would have access to this facility, a long-term beneficial impact on the visitor experience.

Virginius and Hall's Islands

The addition of interpretive displays or signs on both islands, a new pedestrian bridge, and trails would improve visitor understanding of the islands, resulting in a long-term minor beneficial effect on the visitor experience.

Bolivar Heights

Bolivar Heights would continue to be maintained to resemble its historic Civil War era appearance. Interpretation would relate

this site to Schoolhouse Ridge Battlefield, and a trail would physically connect the two. Visitors could access this location via the shuttle bus system which would result in a minor beneficial impact.

Camp Hill

Interpretation of Storer College would be moved from Lower Town to a new interpretive space on the ground floor of one or more of the buildings on Camp Hill. Additionally, an existing display within Anthony Hall would be opened to the public. Installation of more accurate lighting and landscaping would occur. Shuttle bus access would be available. These actions would improve visitor access and understanding of the history of Camp Hill and result in minor beneficial impacts on visitor experience at this location.

Cavalier Heights

The new visitor center would enable visitors to learn about elements of all the primary interpretive themes and would provide a substantial increase in interpretive opportunities over the no-action alternative. Additionally, visitors would better understand and appreciate the thematic and physical links to the cultural and natural resources of the national historical park. This would be the primary location of park interpretation.

Visitors would board shuttle buses that would take them directly to and from the national historical park location they wish to visit.

These actions would have long term moderate beneficial impacts on visitor experience.

Maryland Heights, Loudoun Heights, and Short Hill

The recreational opportunities now available at these national historical park locations, such as hiking, viewing historic sites, and observing nature would continue. Existing trails and vegetation clearings would be maintained. Visitors would access these areas on their own. Interconnecting national historical park trails would provide visitors access to additional trail networks.

A Civil War interpretive overlook with vista clearing and parking would be established at the Sherwood House site on Loudoun Heights. This would result in long-term minor beneficial impacts on visitor experience.

Schoolhouse Ridge

Construction of a pedestrian overpass or underpass at U.S. 340 would allow safe access from Bakerton to Bloomery Road for visitors walking the national historical park trails. NPS areas along Schoolhouse Ridge (Jackson's flanks, Union Skirmish Line) would be maintained to resemble their historic agricultural appearance. On-site interpretation (wayside exhibits) and walking trails would be added to provide understanding of the events that took place here. Small roadside parking areas would be provided for vehicular access. The NPS shuttle bus system would serve one or more of these locations at least part of the year. A primitive campsite would be provided for organized groups on Schoolhouse Ridge north. Incorporating these locations into a larger battlefield tour would provide present and future visitors an opportunity to learn the significance of these sites in American history. These improvements would result in a long-term moderate beneficial impact to visitor experience at these locations.

The Murphy Farm

Visitor amenities such as a parking area, restrooms, river overlook, and trails would be provided in this alternative. The NPS shuttle bus system would serve this location at least part of the year. On-site interpretation of the

Civil War earthworks, Shenandoah River overlook, John Brown's Fort foundation, and the Niagara Movement would be added. These improvements would aid visitor access and understanding of this site and result in long-term minor beneficial impacts on visitor experience.

The Nash Farm

Establishment of a small NPS or partner run resource education center at the Nash farm would improve the NPS outreach and education programs. Most visitors may not benefit from this but the regional community would receive long-term negligible to minor beneficial effects.

Cumulative Effects

Tourists encounter a variety of opportunities in the three-state region centered on the confluence of the Shenandoah and Potomac rivers. Some of the choices are: visiting Civil War battlefields and other historic sites, going to the races in Charles Town, river rafting, taking short walks, and long-distance hiking. Additional long- and short-distance trails are being planned for the region. Access to improved trail systems would be a long-term benefit to visitor experience.

Other national park system units contributing to the educational and recreational opportunities in the region include Monocacy National Battlefield, Antietam National Battlefield, Chesapeake & Ohio Canal National Historical Park, Appalachian National Scenic Trail, and the Potomac Heritage National Scenic Trail. The states of Virginia and Maryland have advertised programs called Civil War Trails that connect the various Civil War sites in those states. Harpers Ferry National Historical Park is associated with many of these programs.

Parking is limited in Lower Town and congestion can occur around the train station during weekday rush hours. Visitor experience in Lower Town can also be adversely affected in the winter months because most of the shops and restaurants are closed.

Current and future partnerships among the National Park Service, local businesses, and other federal and state historical sites would improve interpretation and visitor opportunities in the region. These partnerships would provide additional interpretation, orientation, and visitor access to facilities and services and will improve the visitors experience at the national historical park and in the region. Having partners distribute national historical park material and orientation information will assist future and current visitors before they enter the park boundary.

This variety of high-quality experience opportunities leads to an overall beneficial effect. Alternative 2 would result in long-term minor to moderate beneficial impacts. When the effects of this alternative are combined with other past, present, and future actions, the overall cumulative effect on visitor experience would be minor and beneficial.

Conclusion

Implementing alternative 2 would result in long-term minor to moderate beneficial impacts on visitor experience. When the effects of this alternative are combined with other past, present, and future actions, the overall cumulative effect on visitor experience would be minor and beneficial.

SOCIOECONOMIC ENVIRONMENT

In alternative 2, the national historical park would diversify the visitor opportunities and programs using NPS employees and volunteers to bring to life the historic

atmosphere of a 19th century community through restored structures, artisans, crafters, period ships, and costumed personnel. This alternative would complement the heritage tourism goals of the Harpers Ferry historic district and business community.

A means to increasing visitation would be the ability to market the national historical park resources and attractions to potential visitors. Because this alternative would bring to life a 19th century community through more diverse interpretation and programming, the local and regional business communities would use the national historical park as a backdrop of opportunities to be enjoyed while marketing their own businesses. Also there is potential for a weekend excursion train that would originate from Washington D.C., which would provide day and overnight trip opportunities to a wider range of visitors. A greater diversity of visitor opportunities and programs would be expected to increase the visitor's length of stay, resulting in additional tourist dollars spent in the local and regional economy. The expected increased in visitation to the national historical park would have a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy.

Having the period shops and artisans would provide unique products that are not widely available and thereby create a niche market. An increase in visitor spending in the national historical park would result in increased revenue for the gateway communities in terms of the business and occupation taxes and result in a long-term minor beneficial effect to the economy of the gateway communities.

The National Park Service would continue to financially support some of the physical infrastructure in the gateway communities, and the national historical park's annual operating expenditures would continue to provide revenue for area businesses. The NPS budget originates from outside the local and regional economy through congressional appropriations, but the funds are spent and recycled primarily in the gateway communities and the regional economy, thus providing ongoing benefits.

In alternative 2, there could be an increase in the number of NPS employees as a result of increase interpretive programs. An operating budget that supports additional programs could have a long-term moderate beneficial effect on the gateway communities and a long-term negligible effect on the regional economy if general spending increased.

The capital improvement budget of the national historical park would continue to provide short-term revenues in the gateway communities and regional economy. In alternative 2, it is expected that dollars available for capital improvement would remain stable or decline and thereby have a long-term, minor adverse impact on the gateway communities and a long-term, negligible adverse impact on the regional economy.

Effective coordination and active marketing of regional historic communities could benefit the economic vitality of the gateway communities. A high level of historic preservation and interpretive programs at the national historical park would provide the anchor and attraction that businesses in the gateway communities can take advantage of in the form of visitor support services. An effective marketing as a destination could have a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy.

Cumulative Impacts

In the past, Harpers Ferry National Historical Park had a growing visitation and then a decline to a stable annual visitation. The national historical park's operational budget remains stable but is not keeping up with

inflation. Another effect on the national historical park's budget is the NPS response to other federal mandates that also contributed to a decline of permanent and seasonal NPS staff. The capital improvement program has varied by year with substantial increases and declines, and the program will continue to have short-term benefits.

Initiatives that would benefit the region include the National Trust for Historic Preservation and others promoting to Congress the establishment of a national heritage area that would extend from Monticello, Virginia, to Gettysburg, Pennsylvania, embracing many of the most historic sites in America.

The national historical park has a distinct but small fit in the overall size of the regional tourism industry. Both the gateway communities and regional economies have growing populations and housing trends that have a substantially larger influence of the socioeconomic conditions than that contributed by the existence of the national historical park. These trends are expected to continue into the future.

The impacts of these other actions in combination with the impacts of alternative 2 would result in a long-term, moderate beneficial cumulative effects in the gateway communities and long-term, negligible cumulative effects on the regional economy.

Conclusion

Implementing alternative 2 would have a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy. This alternative would result in a long-term, moderate beneficial cumulative effects in the gateway communities and long-term, negligible cumulative effects on the regional economy. Alternative 2 would contribute a substantial increment to the overall cumulative effect on the economy of the gateway communities and a small increment to the regional economy.

NPS OPERATIONS

Implementing alternative 2 would result in changes to NPS staffing and workload. In addition to projects already underway, construction of a new visitor center, rehabilitated administrative facilities, new curatorial facility, and visitor amenities in outlying areas would need staff attention. This would result in short-term, minor adverse impacts on NPS operations. Long-term impacts on NPS programs from having a new visitor center would be beneficial.

Moving and consolidating NPS managerial and administrative staff into rehabilitated office space in the Brackett, Morrell, and Lockwood houses would increase management efficiency and employee morale — a long-term, minor to moderate beneficial impact. Short-term, minor adverse impacts would occur during the move. A similar impact would occur following consolidation of the Resources Protection and Visitor Use Management Division in Grandview School.

Having maintenance equipment storage structures at outlying (satellite) areas would reduce transportation and wear on equipment, leading to less-frequent replacement costs and benefiting NPS operations.

Regulating vehicles in Lower Town during special events may have a short-term adverse effect, but would also have a positive effect on the ambience of the Harpers Ferry/NPS-sponsored events.

A new museum collections facility would house collections from several area parks as well as Harpers Ferry National Historical Park and allow the consolidation of park collections and archives into one facility rather than several in disparate locations around the national historical park. Less time would be spent traveling from one storage site to

another. All cataloguing, curating, storing, research, and exhibit preparation could be done more efficiently in one location designed to facilitate proper care, maintenance, and storage. The facility would be designed to meet all appropriate preservation standards and would be able to handle growth of the collections.

The Appalachian National Scenic Trail within the national historical park would continue to be maintained at its current standard. The three trail partners would cooperate on a new sign plan to assist visitors in hiking the Appalachian National Scenic Trail through Harpers Ferry National Historical Park and learning about the Lewis and Clark National Historic Trail and the Potomac Heritage National Scenic Trail. This would result in beneficial impacts to all these entities.

Cumulative Effects

In general, the NPS staff is faced with a rising workload resulting from new NPS initiatives and program requirements. Static or reduced base funding does not allow employees to be hired to alleviate the workload. This causes stress on the employees, and some needed projects are slowed to a lack of time or funding.

This alternative would contribute short-term adverse effects and long-term beneficial impacts to the effects listed above. The cumulative effects on NPS operations would be negligible and beneficial.

Conclusion

The preferred alternative would have short-term, minor adverse impacts and long-term, minor to moderate beneficial impacts on NPS operations. The cumulative effects on NPS operations would be negligible and beneficial.

UNAVOIDABLE MODERATE TO MAJOR ADVERSE IMPACTS

Under alternative 2 there would be a slight increase in the development footprint as restrooms are constructed at Murphy Farm and Schoolhouse Ridge Battlefield and a new visitor center is built on Cavalier Heights. This would result in unavoidable minor adverse impacts. There are no actions in alternative 2 that would result in unavoidable major adverse impacts on resources or visitor enjoyment.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Changes to the configuration and use of historic buildings for purposes of adaptive reuse has the potential to impact new areas within historic buildings and could result in irreversible loss of historic fabric.

Implementing this alternative would result in the irretrievable loss of 5 acres of vegetation and soil productivity due to construction of facilities.

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

The purpose of Harpers Ferry National Historical Park is to preserve and commemorate the (developed) location of historic events. However, under all alternatives, most of the national historical park would be in the scenic and natural preservation zone, which does not allow development. The National Park Service would continue to manage these areas under all alternatives to maintain natural ecological processes and native biological communities. Any actions the National Park Service would take would be intended to ensure that human uses do not adversely

affect the productivity of existing natural biotic communities.

Under alternative 2 there would be a slight increase in the development footprint as new structures are constructed at Murphy Farm, Schoolhouse Ridge Battlefield, Camp Hill, and on Cavalier Heights. However, this would not result in a substantial loss of long-term productivity because these areas are all previously disturbed and not in a natural state.

IMPACTS OF ALTERNATIVE 3

CULTURAL RESOURCES

To appropriately preserve and protect national register-listed or -eligible historic structures, all stabilization, preservation, and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during rehabilitation efforts would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work at the sites. Stabilization, preservation, and rehabilitation would have no adverse effects on historic structures.

Historic Structures

Lower Town. Buildings would be managed under the historic leasing program for commercial businesses similar to those that might have originally used the structures. The exteriors have already been restored and would continue to be maintained by the National Park Service to a mid-19th century appearance. Periodic flooding, successive rehabilitation, and maintenance have taken their toll on interior features with the resulting loss of much of the original fabric. However, remaining interior character-defining features would be preserved, and lessees would be required to preserve the 19th century character of building interiors. Impacts on historic fabric would likely be minimal, a no adverse effect determination.

Federal Armory. A feasibility study for moving the U.S. Armory engine and guard house (John Brown's Fort) back to its original location in the armory yard would be prepared. Pending this study John Brown's Fort would remain in its current location in Lower Town. Leaving the structure in its present location would have no effect on the building.

Virginius Island / Hall's Island. Under this alternative a representative set of foundation ruins would be stabilized and maintained on Virginius Island. Actions necessary to stabilize and preserve the structural remains for interpretive purposes would require such activities as repointing of masonry joints or other minimal intrusions to preserve the structural remains in their current condition. Preservation actions to stabilize existing remains would not be adverse.

Potomac River Frontage. The Armory canal and associated structures would be exposed and stabilized to preserve them in their current condition. The canal would not be rewatered. Necessary preservation would be conducted to protect the structures from further deterioration. This exposure and preservation would result in no adverse effect to these structures.

Rehabilitation of the Potomac Power Hydro-electric Plant would occur for use by the NPS Historic Preservation Training Center as a workshop, for periodic interpretive tours, or park maintenance purposes. There would be no adverse effect.

Camp Hill. The Morrell, Brackett, and Lockwood houses would be preserved. All three would continue to be adaptively used for interpretive exhibits. The results of such rehabilitation would be expected to have no adverse effect.

Shipley School would either be rehabilitated under a public/private agreement resulting in no adverse effect or removed and its site landscaped, an adverse effect.

Loudoun Heights, Maryland Heights, Short Hill. After evaluation for inclusion in the

National Register of Historic Places, nonhistoric standing structures would be removed or would be allowed to molder through natural processes. There would be no effects on historic buildings by the implementation of this alternative.

This alternative would increase the stabilization and preservation of the remaining structural ruins through development and implementation of a preservation plan for Civil War earthworks, campsites, and other defensive works. These preservation activities would reduce any deterioration. As a result, implementation of this alternative would have no adverse effect.

Schoolhouse Ridge Battlefield. After being evaluated for the National Register of Historic Places, nonhistoric buildings and structures, including those at the Jellystone campground and Harpers Ferry Caverns, would be removed. In those instances of removal there would be no historic properties affected by implementation of this alternative. Structures found to be eligible could be rehabilitated or restored to their original appearance to enhance the cultural landscape or removed with an approved mitigation strategy in consultation with the state historic preservation office and the Advisory Council on Historic Preservation. Such actions would range from no adverse effect to an adverse effect on historic properties.

Murphy Farm. Rehabilitation of the Murphy farmhouse would be undertaken to reestablish the historic exterior. The interior would be similarly rehabilitated for interpretive purposes or use under the historic leasing program. The results of rehabilitation would not be adverse.

Stabilization of the foundation of John Brown's Fort would have no adverse effect to this structure.

This alternative would increase the stabilization and preservation of the Civil War structural ruins through development and implementation of a preservation plan for the historic defensive works. The resulting impact of the preservation activities would reduce the deterioration of these structural ruins. As a result, implementation of this alternative would have no adverse effect.

Nash Farm. Preservation of the exteriors of the primary residence and barn would occur to maintain the appearance of a dairy farm. The interiors would be rehabilitated for use as an education facility. This rehabilitation would have no adverse effect on the historic properties.

Potomac Terrace. Grandview School would be rehabilitated and adaptively reused by the national historical park's Resources Protection and Public Use Management Division. This adaptive rehabilitation would be primarily limited to the interior of the structure but could include construction of an addition on the rear of the building for vehicles and storage. Such rehabilitation efforts would likely impact some historic fabric. However, careful design in consultation with the West Virginia state historic preservation office should ensure that the impacts would be minimal and would result in no adverse effect to the historic building.

Cumulative Effects — Since the congressional authorization of the national monument in 1944, the National Park Service has removed 35 structures identified as either unsafe, unstable, or not in keeping with the 19th century period of significance. These removals occurred primarily in Lower Town, although several structures on Camp Hill and Storer College were also removed. The removal of many of these structures from the national historical park left gaps in the appearance of the former Storer College Campus that today would be considered adverse.

Since the creation of the national historical park, many restoration and rehabilitation projects have been accomplished, resulting in

the preservation of historic structures. These structures were generally located along Shenandoah Street and consisted of a wide range of building types though primarily commercial and residential. In general, the rehabilitation of these structures resulted in their long-term preservation and had no adverse effect.

The Armory engine and guard house known as John Brown's Fort was moved several times, disassembled, and reconstructed to a semblance of its appearance at the time of the raid. However, the history of the building and its significance has not been lost because of its restoration. These impacts have varied from adverse to beneficial.

External to the national historical park boundaries, population growth associated with metropolitan Washington, D.C., has impacted the use and character of historic buildings in the area. Use of historic structures has altered the historic fabric and impacted the historic elements of the structures. In addition, actions such as weathering, lack of maintenance, or structural modifications have contributed to the impacts to historic structures. The overall impact of urbanization on historic structures in the Harpers Ferry area has been mixed as many historic structures have been lost while other have been saved and restored.

As described above, the potential impacts associated with implementation of alternative 3 would result in predominantly no adverse effects on the national historical park's historic structures. However, the few potential adverse impacts associated with alternative 3, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 3 would only contribute minimally to the adverse cumulative impact.

Conclusion — The impacts of alternative 3 on historic structures would be generally positive. When evaluated with the adverse impacts of past, present, and foreseeable future actions, the actions in this alternative would contribute only minimally to the cumulative whole.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Archeological Resources

Archeological resources adjacent to or easily accessible from trails and developed areas could be vulnerable to surface disturbance, inadvertent damage, and vandalism. A loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence could result. However, continued ranger patrol and emphasis on visitor education would discourage vandalism and inadvertent destruction of cultural remains, and any adverse impacts would be expected to be minimal if any.

As appropriate, additional archeological surveys would precede any ground disturbance associated with excavation, construction, or demolition, e.g., construction or improvement of foot trails, installation of wayside exhibits or other media, and construction of a museum collections storage facility. National register-eligible or -listed archeological resources would be avoided to the greatest extent possible. If such resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the appropriate state historic preservation officer.

Before demolition of any national register-listed or -eligible structure, a survey for archeological resources in the general vicinity of the affected structure would be conducted.

The excavation, recordation, and mapping of any significant cultural remains, if present, would be completed before demolition to ensure that important archeological data that otherwise would be lost is recovered and documented. Any impacts on archeological resources would be adverse.

Federal Armory. Archeological testing to locate and document Federal Armory features would be undertaken under this alternative. This work would follow acceptable NPS guidelines and have no adverse effect on the resources.

Virginius Island / Hall's Island. Archeological investigations associated with stabilization of the historic structural remains would be carried out under this alternative, resulting in no adverse effect to those historic remains.

Potomac River Frontage. Exposure and preservation of the Armory canal would necessitate investigations to document the archeological resources on site. Such archeological work would result in a determination of no adverse effect.

Cumulative Effects - Past development in the national historical park may have resulted in the disturbance and loss of some archeological resources during excavation and construction activities. In addition, agricultural practices and the development and expansion of communities in and near the park may also have previously disturbed archeological resources. The continuation of current activities could also result in future adverse impacts on archeological resources.

As described above, implementation of alternative 3 could potentially disturb archeological resources at the national historical park — resulting in adverse effects. Any adverse impacts associated with implementing alternative 3, in combination with the impacts of other past, present, and reasonably foreseeable future projects, would result in adverse cumulative impacts. However, alternative 3 would be expected to contribute only minimally to the adverse cumulative impacts. Thus, any adverse impacts on archeological resources resulting from implementing alternative 3 would be a very small component of the adverse cumulative impact.

Conclusion —Archeological investigations associated with stabilization/ preservation of foundations or structures within the national historical park would be required. Investigations would be coordinated with the West Virginia, Maryland, and Virginia state historic preservation offices under the requirement of Section 106 of the National Historic Preservation Act of 1966, as amended. The actions associated with this alternative could have adverse impacts on archeological resources.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

Cultural Landscapes

To appropriately preserve and protect national register-listed or -eligible cultural landscapes, all stabilization, preservation, and rehabilitation efforts, as well as daily, cyclical, and seasonal maintenance, would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Stabilization, preservation, and rehabilitation would have no adverse effects on cultural landscapes.

Careful design would ensure that the improvement and construction of trails would

minimally affect the scale and visual relationships among landscape features. In addition, the topography, vegetation, circulation features, and land use patterns of the landscape would remain largely unaltered by such actions, resulting in no adverse effect.

The under-grounding of utilities would have minimal, if any, effect on the existing topography, spatial organization, or land use patterns of cultural landscapes. Once the underground utility line is installed and the trench is backfilled, the disturbed ground would be restored to its preconstruction contour and condition. No adverse effects would be anticipated.

Lower Town. Regulating the use of private and NPS vehicles during periods of high visitation would help remove modern intrusions from a historic setting. The removal of additional vehicles from the Lower Town would benefit the cultural landscape and have no adverse effect.

The use of backyards as interpretive venues could occur under this alternative. This would require rehabilitation of the areas to a safe and historically appropriate condition. Rehabilitation of these backyard spaces would result in no adverse effect.

Federal Armory. Providing accessibility for visitors with disabilities to the armory could be accomplished via the vomitorium and walkway along the river walk. The resulting visual impact on the armory grounds would likely not be an adverse effect.

Virginius Island / Hall's Island. Identification of structural ruins would be accomplished through the outlining or ghosting of such features. The impacts on the cultural landscape would not be adverse because the outlining would be low profile and reversible.

Potomac River Frontage. The Armory canal and associated structures would be exposed and stabilized to preserve them in their current condition. The canal would not be rewatered. Necessary preservation would be conducted to protect the structures from further deterioration. This exposure and preservation would result in no adverse effect on the cultural landscape.

Camp Hill. The Morrell, Brackett, and Lockwood houses would continue to be preserved to retain their historic presence on the landscape of Camp Hill. The impact would not be adverse.

Implementation of a period lighting plan would help to restore a further semblance of the historic college campus on Camp Hill. This lighting would unify the landscape of Camp Hill and would be less obtrusive than the current lighting systems. Such changes would result in a determination of no adverse effect.

Shipley School would either be rehabilitated under a public/private agreement resulting in no adverse effect to the streetscape or removed. Demolition would remove this large structure that was important in the development of the community. Removal would result in an adverse impact on the community streetscape.

A bus shelter would be constructed on Camp Hill using sensitive design and placement to minimize the potential for visual intrusion into the landscape. The impact would not be adverse.

Removing the nonhistoric maintenance facility from the edge of Camp Hill to outside national historical park boundaries and replacing it with additional open space would be expected to have no adverse effect.

Loudoun Heights, Maryland Heights, and Short Hill. Nonhistoric structures would be removed in this alternative. Removal of such structures would help provide a greater semblance of the historic appearance. Consequently, the removal of nonhistoric

structures would result in no effect to the cultural landscape.

An increased number of interpretive signs would be installed on Maryland Heights in this alternative. The installation of these signs could impact historic vistas, but their placement and design would minimize these impacts to the extent possible. The increase in signs should have no adverse effect on the cultural landscapes of Maryland Heights.

The historic viewshed of Maryland Heights from Lower Town could be altered as the result of opening some "field of fire" vistas of Civil War artillery by selective removal of vegetation. The removal of vegetation would enhance the semblance of the historic artillery emplacements and would have no adverse effect on cultural landscapes.

Schoolhouse Ridge. The campground and nonhistoric structures would be removed and the land returned to a more historically accurate setting. Schoolhouse Ridge would be maintained as a battlefield landscape using agricultural leases to maintain the historic rural condition. By returning the land on which the campground is built to its historic appearance there would be no adverse effect to the predominant Civil War cultural landscape.

Creation of a small parking area for visitors would result in no adverse effect because they would be located along the Bakerton-Bloomery Road and out of important viewsheds.

Nash Farm. Rehabilitation of the existing farm structures would maintain the appearance of an active dairy farm, which would coincide with the predominant period of significance for the National-Register-listed property. The dairy farmscape would be preserved using an agricultural lease. This would result in minimal change to the cultural landscape and would have no adverse effect.

Cumulative Effects — During the first half of the 20th century several major flooding episodes inundated what is now Harpers Ferry National Historical Park. The most extensive impacts have occurred in Lower Town where the loss of buildings has changed the appearance of the streetscape of Shenandoah Street near the Green and Hamilton Street areas.

In 1969 John Brown's Fort was moved from Storer College to its present site about 100 yards from its original location. It was not possible to move the fort to its original location due to the berm constructed by the B & O Railroad. The fort's proximity to the original location has a beneficial impact on the cultural landscape. Its return has resulted in no adverse effect.

The elimination of historic streets to the Shenandoah River and the creation of nonhistoric pedestrian trails have resulted in changes in access and movement through a considerable section of Lower Town. In addition, reconfiguring the circulation pattern of the national historical park by the addition of a connector road between the Cavalier Heights Visitor Center and Lower Town has generally had an adverse effect on the cultural landscape, but has been offset by removal of vehicular parking that damaged historic resources and the removal of destructive recreational activities that damaged archeological resources.

Revegetation of The Green and Hamilton Street areas with turf grasses does not accurately reflect the vegetation of any of the historic periods identified in the national historical park and is an adverse effect to the cultural landscape, but is offset by the protection it gives to archeological resources as a result of soil erosion during floods.

Historic land use patterns have been altered through the imposition of the national historical park on to the town. The functions of a national park system unit are very

different from those of a quiet small town. The result may be an adverse effect on the historic landscape.

Through stabilization, rehabilitation, and ongoing maintenance, Harpers Ferry National Historical Park has provided protection and preservation of historic structures that have been subjected to numerous floods that affected the upkeep of the town. The benefit of these efforts has been to maintain a semblance of an historic townscape, and has resulted in no adverse effect.

Beyond the national historical park boundaries, population growth primarily associated with metropolitan Washington, D.C., has altered the character of the historic cultural landscape. Alterations to transportation corridors have also affected the landscape. The result has been an adverse effect on the rural character of the cultural landscape surrounding the national historical park.

As described above, the potential impacts associated with implementation of alternative 3 would result in both no adverse effects and adverse effects to the national historical park's cultural landscapes. The adverse impacts of alternative 3, in combination with the adverse impacts of other past, present, and reasonably foreseeable future actions, would result in an adverse cumulative impact. The adverse impacts of alternative 3, however, would only contribute minimally to the adverse cumulative impact.

Conclusion — The impacts of alternative 3 would generally be described as not adverse. The actions associated with this alternative would therefore be expected to contribute only minimally to the adverse impacts of other past, present, or foreseeable future actions. Although the cumulative impact would be adverse, any adverse impacts to cultural landscapes resulting from implementation would be a very small component of the cumulative impact.

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Harpers Ferry National Historical Park; (2) key to the natural or cultural integrity of the national historical park; or (3) identified as a goal in relevant NPS planning documents, there would be no impairment of the national historical park resources or values.

NATURAL RESOURCES

Wetlands and Water Resources

Construction of facilities such as the expanded visitor facility on Cavalier Heights and parking areas and vault toilets on Schoolhouse Ridge and the Murphy farm would have the potential to impact water runoff and percolation patterns, resulting in long-term, negligible adverse impacts.

Wetlands in public use areas would continue to be protected. These areas would be monitored and actions taken if necessary to prevent adverse impacts from visitor use or NPS operations. These actions would result in long-term, minor beneficial impacts to water resources in the national historical park.

Cumulative Effects — Water resources in the Potomac and Shenandoah river basins have been adversely affected by 200 years of human use and activity. Both domestic and industrial wastes are sources of water pollution in the region. Agricultural practices, including the use of fertilizers and pesticides, are primary contributors to contamination of the streams and rivers. The loss of forest cover, changes in land use, and waste from industries have adversely affected water quality (chemicals in runoff, sedimentation from erosion, etc.). These sources of water quality degradation are located outside national historical park boundaries. Illegal activities such as inadequate or nonfunc-

tioning septic systems, dumping of waste in the rivers or unauthorized horse use near waterways also adversely affects water quality. Use of river water for irrigation, industry, and domestic uses has adversely affected water quantity. Establishment of the national historical park and implementation of Chesapeake Bay protection initiatives have contributed long-term benefits to water resources in the region.

Some wetlands in the region have been filled in to make more land available for development. This practice decreases wetland areas and removes their natural beneficial values. Closure of the water-powered industries and nonuse of the Shenandoah Canal has led to the creation of a wetland on Virginius Island. This is a beneficial effect that may offset the loss of other wetlands in the region.

Alternative 3 would contribute a negligible adverse component to these effects and the resulting effect of these past, present, and future actions, when taken cumulatively, would be minor and adverse.

Conclusion — This alternative would result in long-term, minor beneficial impacts to wetlands and water resources in the national historical park. Cumulative effects would be minor and adverse. There would be no impairment of this national historical park resource.

Floodplains

This alternative would not result in any additional development in floodplains. There would be a small change in land use in floodplains on Virginius and Hall's islands in the form of additional treatment of extant cultural resources. However, since these islands have been developed for over 200 years, this action would have no effect on floodplains.

Cumulative Effects — Floodplains of the Potomac and Shenandoah rivers have been adversely affected by 200 years of human use and activity. Construction of roads, canals, housing and commercial development has adversely affected the original floodplains. Riverside walls or berms and reinforced banks have constrained the natural meandering of the rivers. These impacts would continue.

Establishment of the national historical park and preservation of outlying natural areas such as Loudoun Heights and Short Hill has preserved the beneficial values of the floodplains along those undeveloped areas. Floodplains would continue to be adversely affected by the development that prevents natural river movement and sediment deposition.

Floodplains would continue to be adversely affected by the development that prevents natural river movement and sediment deposition.

Implementing alternative 3 would have no effect on floodplains, resulting in no cumulative effects.

Conclusion — There would be no effect on floodplains and thus, no cumulative effects as a result of this alternative. There would be no impairment of a key national historical park resource or value as a result of this alternative.

Soils

Construction of parking areas on Schoolhouse Ridge, the Nash farm, and the Murphy farm; and expansion of the visitor facility on Cavalier Heights would disrupt soils in these locations. The total disturbance would be approximately 4 acres. There would be short-term adverse effects because soils would be subject to increased wind and water erosion until vegetation recovers. There would be long-term adverse effects in the form of

disrupted soil properties where new facilities are constructed. Construction would be localized and primarily in previously disturbed areas. Mitigating measures such as prompt revegetation and silt fencing would be employed to reduce potential adverse impacts. The impacts of this alternative would be long-term, minor, and adverse.

Cumulative Effects — Soils in the region have been disrupted by commercial, residential, and agricultural development and use over the last two centuries. Foreseeable future actions of further development in the vicinity of the national historical park would adversely impact soils through compaction or transport from construction activities for roads, residential development, commercial development, and associated infrastructure.

This alternative would contribute a localized, minor adverse impact to these effects and when combined with other past, present, and foreseeable future actions would have moderate adverse cumulative effects on the soil resource.

Conclusion — The impacts of implementing this alternative would be long-term, minor, and adverse. There would be a moderate adverse cumulative effect on soils. There would be no impairment of this national historical park resource.

Cave and Karst Resources

This alternative would not create any changes to current conditions or situations affecting John Brown Cave. Existing impacts would continue at the same level and intensity as they are now.

Man-made intrusions in Harpers Ferry Caverns would be removed, resulting in long-term minor beneficial impacts. Public access would be by permit only. The permit would include cave protection and safety stipulations. The anticipated impacts of such limited use would be expected to be long term, negligible, and adverse.

Cumulative Effects — Subterranean ecosystems are typically in an extremely delicate balance and easily disrupted. Natural processes can change the cave environment such as daily exchanges of air, introduction of organic material from water flow or large animals; and rock fall closing an entrance or passageway. Humans entering the caves have adversely affected the resources through altering the natural balance by introducing foreign matter (dead skin, hair, clothing lint, and other introduced organic matter), exhaling carbon dioxide, trampling cave life, as well as intentional littering and vandalism (graffiti, breaking formations).

Harpers Ferry Caverns was once developed commercially and open for tours. Development included electric lights, walking trails, stairs and handrails. In addition, the entrance sinkhole was roofed over and an exit tunnel was created. These developments altered the cave considerably by

- heating and drying the air, affecting growth of speleothems and climate for cave-adapted animals
- disrupting the natural flow of both water and air. Many forms of life rely on the input of waterborne or airborne organic matter
- Introducing foreign matter that can disrupt ecosystems such as lint, microbes, rusting metal, etc.

These human-caused changes resulted in short-and long-term, minor to moderate adverse impacts. Alternative 3 would not add to these impacts but would continue a long-term, minor adverse contribution and when combined with other past, present, and future actions would result in minor, adverse cumulative effects.

Conclusion — Alternative 3 would result in long-term minor beneficial impacts and

long-term negligible adverse impacts. Cumulative effects would be minor and adverse. There would be no impairment to this resource as a result of implementing this alternative.

Vegetative Communities

Under this alternative, there would continue to be some vegetative manipulation such as clearing or trimming in certain areas on Maryland Heights, Bolivar Heights, and the Murphy farm in order to maintain the appearance of historic openings. This would be limited to small, isolated areas and would occur in vegetation that is no longer natural, old-growth hardwood forests. With these considerations, adverse impacts of this action would be long-term but negligible.

Construction of parking areas at Schoolhouse Ridge, the Nash farm, the Murphy farm; and expanded facilities on Cavalier Heights would alter existing vegetation. Total disturbed area would be about 4 acres. Because this construction would be highly localized and in previously disturbed areas, the long-term adverse impacts would be minor. Rehabilitation of park headquarters, office, and curatorial facilities would not affect vegetation because it would occur in existing structures.

Continuing control of nonnative species would benefit native vegetative communities.

Cumulative Effects — Native vegetation in the region has been systematically disturbed for thousands of years. From early Native American cultures through the Industrial era, humans relied on the vegetation for food, fuel and shelter. As more people came into the region, nonnative plants came with them. These actions adversely altered the vegetation throughout most of the region. Native, old-growth communities remain only on steep slopes or otherwise inaccessible land. Agricultural operations used to maintain historical landscapes have eliminated native communities on portions of the Murphy farm, the Nash farm, Bolivar Heights, and Schoolhouse Ridge. Limited social trails occur in almost all areas of the national historical park. These are unplanned and unmaintained trails created by visitors. They can damage vegetation, disrupt animal habitats and cause soil erosion.

Seeds of nonnative plants carried by wind and humans have created infestations of noxious weeds and other invasive species. These species cause long-term adverse impacts on native vegetation by competing for available resources such as water and nutrients.

The establishment of Harpers Ferry National Historical Park has resulted in moderate beneficial impacts to vegetation through long-term protection of native vegetation in outlying areas and nonnative species eradication efforts.

The long-term adverse impacts caused by residential and commercial development would be expected to continue.

This alternative would contribute a minor adverse impact and, when combined with the impacts of other past, present, and foreseeable future actions, would result in a minor adverse cumulative effect on vegetative resources.

Conclusion — Alternative 3 would result in long-term minor adverse impacts on vegetative communities. The cumulative effects would be minor and adverse. There would be no impairment of this resource as a result of this alternative.

Fish and Wildlife

The construction proposed in this alternative would occur in previously disturbed areas that offer less valuable habitat than undisturbed areas, so the adverse impacts would be long-

term but negligible. Use of the outlying areas (Maryland Heights, Loudoun Heights, and Short Hill) by visitors and NPS staff is not likely to change as a result of this alternative, so there would be no change affecting wildlife in these areas.

Construction of new trails around the national historical park would cause a temporary and localized disturbance of animals in the area, resulting in short-term, minor adverse impacts to wildlife. After construction, human use of these trails would cause fear and avoidance reactions in wildlife that are near the trails resulting in long-term minor adverse impacts.

This alternative also calls for an underpass or overpass to be constructed across U.S. 340 near the Bakerton/Bloomery road. An underpass would allow terrestrial wildlife species to safely pass under the busy highway resulting in reduced highway fatalities. This would be a long-term, minor beneficial impact to wildlife.

Study of the deer population on Maryland Heights and continued participation in peregrine falcon reintroduction would result in long-term benefits to ecological systems.

Cumulative Effects — Actions affecting wildlife are occurring in the region around Harpers Ferry as a result of agriculture and urban development. Certain actions taken on private, state, and federal land can disrupt or fragment habitat, displace individuals or otherwise cause stress to animals. Incremental development of the region has affected the abundance and diversity of wildlife by changing the capacity of habitats to provide necessary food, shelter and reproduction sites. Wildlife is slowly becoming more restricted by current land uses, increasing development and human activity, causing individuals and populations to either adapt or move. This has caused minor to moderate adverse impacts.

The presence of human visitors in the backcountry areas can disturb wildlife. If the number of visitors increases, this disturbance could increase. Most animals seem to have a greater defense response to humans moving unpredictably in the terrain than to humans following a distinct path (Gabrielsen and Smith 1995). Therefore, retaining the developed trails should partially mitigate the impacts on wildlife.

Establishment of the national historical park has resulted in long-term benefits for fish and wildlife populations. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to continue. These protected areas in the national historical park are highly important because of the quality fish and wildlife habitat they provide. Hunting is prohibited in the national historical park, and the white-tailed deer population on Maryland Heights has increased to where it could be causing ecological damage.

Developed land provides lower quality wildlife habitat when compared to undisturbed land. Therefore, further impacts on wildlife and habitat connections throughout the site are minimized when additional development takes place on previously disturbed land. Ongoing actions potentially affecting fish and wildlife populations such as visitor use, facility maintenance and natural resources management would continue.

Continued population growth in Maryland and West Virginia would reduce habitat available to wildlife species, resulting in long-term minor to moderate adverse impacts.

This alternative would result in long-term negligible adverse impacts and long-term, minor beneficial impacts. When analyzed in combination with the impacts of other past, present, and future action, there would be a negligible to minor adverse cumulative effect on fish and wildlife resources.

Conclusion —This alternative would result in long-term negligible adverse impacts

and long-term, minor beneficial impacts. Cumulative effects would be negligible to minor and adverse. No impairment of any fish or wildlife species would occur.

Special Status Species

The construction proposed in alternative 3 would not occur in habitat supporting listed species. Use of the outlying areas (Maryland Heights, Loudoun Heights, and Short Hill) by visitors and NPS staff is not likely to change as a result of this alternative, so there would be no change affecting sensitive plants or wildlife in these areas. No foraging, watering, or roosting habitat known to be used by Indiana bats would be affected.

For state species of concern, this alternative is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide. Inventory and monitoring of state and federally listed species would continue and protective measures implemented when necessary.

Cumulative Effects — Habitat loss or disruption is the most common reason for a terrestrial wildlife or plant species to become threatened or endangered. Loss or fragmentation of habitat has occurred in the region as a result of commercial and residential development, and agriculture. Human-related land uses on private, state, and federal land have disrupted or fragmented habitat, displaced individuals, or otherwise caused stress to animals. Incremental development of the region has changed the capacity of habitats to provide necessary food, shelter and mating territory, resulting in the decrease of population numbers. Past impacts on threatened and endangered species in the region from human activities have been moderate to major and adverse.

Establishment of the national historical park has resulted in long-term benefits for special status species. Acquisition of the natural areas has curtailed development and allowed more natural environmental processes to occur. These protected areas in the national historical park will become increasingly important in providing quality habitat for rare species in the region.

Given the lack of information regarding the exact extent of impacts outside the national historical park, it is difficult to assess the relative scope of the impacts of this alternative compared to current and anticipated future actions in the region.

Residential development in Maryland and West Virginia would continue to reduce habitat for special status species, resulting in long-term minor to moderate adverse impacts on these species.

This alternative would contribute an adverse component to the impacts of other past, present and reasonably foreseeable future actions, and the cumulative impacts to listed, candidate or other special status species would be moderate and adverse.

Conclusion — There would be no effect on Indiana bats or federal species of concern as a result of this alternative. Cumulative impacts to listed, candidate or other special status species would be moderate and adverse. No impairment of a special status species would occur as a result of this alternative.

Soundscapes

Rerouting a 4-lane US 340 out of the river valley would result in long-term, moderate beneficial impacts to soundscapes in most areas of the national historical park. Moving the maintenance facility out of the national historical park would eliminate the noise related to that facility on Camp Hill resulting in a long-term, minor beneficial impact.

Construction of visitor facilities and rehabilitation of NPS offices would cause temporary impacts on the soundscape in localized sites during construction. Similar impacts would occur during removal of Shipley School and construction of a curatorial building on Camp Hill. These impacts would be short-term, minor to moderate, and adverse.

Human-related noise from increased visitation in areas that are now rarely visited such as Schoolhouse Ridge and the Murphy farm could cause a negligible adverse impact. Natural soundscapes in the outlying areas (Scenic/Natural Preservation Zone and most of the Cultural Landscape Zone) would not be affected.

Cumulative Effects — Portions of the national historical park are located in an urban setting where human-caused sounds tend to dominate. Lower Town has been part of a noisy, bustling community for almost 200 years. Because the national historical park's purpose is to preserve and interpret historic resources, most visitors do not come here expecting the quieter, intermittent sounds of nature. However, this experience is available in the natural areas.

Disruptions come from human activities inside and outside the national historical park. Traffic on Highway 340 creates constant noise, and trains on the rail lines create considerable aural impacts throughout the day. Sounds of a modern town, such as vehicles, phones, and air-conditioning, have intruded on the historic setting in Lower Town.

Continuing trends of population growth in the area would result in additional adverse impacts on natural soundscapes.

This alternative would contribute a moderate beneficial impact and negligible adverse impact to the combined effects of other past, present and foreseeable future actions, resulting in beneficial cumulative impacts on the national historical park's soundscapes.

Conclusion — Alternative 3 would result in short-term minor to moderate adverse impacts, long-term moderate beneficial impacts, and long-term negligible adverse impacts on soundscapes in the national historical park. There would be beneficial cumulative impacts. No impairment of a key national historical park resource or value would result from this alternative.

Lightscapes

Following NPS policy, existing outdoor lighting that is found to be contributing to nighttime light pollution will be replaced with fixtures that are more sensitive to the resource. In addition, any new outdoor lighting installed as a result of implementing this alternative would be the minimum necessary for safety or security and of a design that prevents stray light from spreading upwards into the sky. NPS staff would work with surrounding communities on ways to decrease light pollution in the region. With these standard practices, this alternative would have a long-term, minor beneficial impact on the national historical park's lightscape.

Cumulative Effects — The clarity of night skies over the national historical park have been diminished by artificial light sources both within and outside the park that create a light haze obscuring views of stars and distant topographic features. The primary culprit is outdoor lighting of a type that allows light to shine up into the sky. Outdoor lighting is common throughout the region, including inside national historical park boundaries. Creation of the national historical park's natural areas has a long-term beneficial impact by maintaining lightless areas.

As development in the areas around the park increases, the amount of light pollution would likely increase.

This alternative would contribute a beneficial impact to these effects, reducing the overall cumulative effects to minor and adverse.

Conclusion — This alternative would have a long-term, minor beneficial impact on lightscapes. Overall cumulative effects would be minor and adverse. There would be no impairment of a key national historical park resource or value as a result of this alternative.

VISITOR EXPERIENCE

Under alternative 3, national historical park visitors would have an opportunity to engage in a large variety of recreational activities, have access to new facilities, and participate in new interactive experiences. More areas of the national historical park would become available to visit under this alternative.

Connections to regional trails and the establishment of a joint NPS/city bus system with regularly scheduled routes would provide moderate long term beneficial impacts on visitors and local community residents.

Lower Town

Lower Town would be revitalized as a 19th century community through authentic shops selling period goods and additional historical interpretation and demonstrations in this alternative. Visitors would receive a larger variety of interpretive programs presented by park partners or NPS staff. All presentations would follow NPS standards. A clear line of distinction would be made so visitors could determine which services were available via the national historical park and that were available through the contractor. Modern intrusions such as vehicles would be regulated during heavy use periods. These actions would provide a more interactive and engaging experience resulting in long-term minor to moderate beneficial impacts. Some contractor-provided services may be for a fee which could cause minor adverse impacts on visitors.

Federal Armory

Under this alternative, there would be on-site interpretation of the armory grounds. Foundations of the historic structures would be marked so that visitors could visualize the layout of the armory. These actions would provide a minor to moderate long term beneficial impact on the visitor experience at this location.

Potomac Frontage/Armory Canal

A foot path with wayside interpretive panels would be constructed along the historic armory canal. This would open a new opportunity for visitors to walk and possibly ride bicycles resulting in long-term minor beneficial impacts to visitor experience at this location.

Virginius and Hall's Islands

The addition of interpretive displays or signs on both islands and a new discovery trail would improve visitor experience and understanding of the islands.

Bolivar Heights

Bolivar Heights would continue to be maintained to resemble its historic appearance. Interpretation would relate this site to Schoolhouse Ridge Battlefield north. Regularly scheduled historical demonstrations would be provided for a fee by national historical park partners. This would be a beneficial impact. Visitors could access this

location via the NPS/city bus system which would result in a minor beneficial impact.

Camp Hill

The ground floors of the Lockwood House on Camp Hill would be opened to the public to provide interpretive opportunities. Interpretation of Storer College and the historic structures would be moved to here from Lower Town.

Enhanced fee-based interpretive programs would be considered. Installation of more accurate lighting and landscaping would occur. These actions would improve visitor understanding of the history of Camp Hill and result in minor beneficial impacts to visitor experience at this location.

Cavalier Heights

The new visitor center would be the primary location for national historical park and regional visitor information. It would be jointly operated with state and local tourism offices.

Visitors would learn about elements of all the primary interpretive themes and would receive a substantial increase in interpretive opportunities over the no-action alternative. Additionally, visitors would better understand and appreciate the thematic and physical links to the cultural and natural resources of the national historical park.

These actions would have long-term moderate beneficial impacts on visitor experience.

Maryland Heights, Loudoun Heights, and Short Hill

The recreational opportunities now available at these national historical park locations, such as hiking, viewing historic sites, and observing nature, would continue. Existing trails and vegetation clearings would be maintained. Visitors would access these areas on their own.

Schoolhouse Ridge Battlefield

Sites along Schoolhouse Ridge would be maintained to resemble their historic agricultural appearance. On-site interpretation and walking trails would be added to provide understanding of the events that took place here. A primitive campsite would be provided for organized groups on Schoolhouse Ridge north. Visitors would have opportunities to participate in site demonstrations, overnight at a primitive campground, and embrace history and make a connection with the natural and cultural resource. This would result in long-term moderate beneficial impacts to visitor experience at these locations.

The Murphy Farm

Visitor amenities such as a parking area, restrooms, and maintained trails would be constructed in this alternative. On-site interpretation of the Civil War earthworks, John Brown's Fort foundation, and the Niagara Movement would be added. These improvements would aid visitor understanding of this site and result in long-term beneficial impacts to visitor experience.

The Nash Farm

Establishment of a resource education institute using the historic leasing program on the Nash farm would improve the outreach and education programs. While most national historical park visitors may not benefit from this or have access to the site, the regional community would receive long-term beneficial effects.

Cumulative Effects

Tourists encounter a variety of opportunities in the three-state region centered on the confluence of the Shenandoah and Potomac rivers. Some of the choices are: visiting Civil War battlefields and other historic sites, going to the races in Charles Town, river rafting, taking short walks, and long-distance hiking. Additional long- and short-distance multipurpose trails are planned for the region. Access to improved trail systems would be a long-term benefit to visitor experience.

Other national park system units contributing to the educational and recreational opportunities in the region include Monocacy National Battlefield, Antietam National Battlefield, Chesapeake & Ohio Canal National Historical Park, Appalachian National Scenic Trail, and Potomac Heritage National Scenic Trail. The national historical park is also an officially designated site of the Lewis and Clark National Historic Trail. The states of Virginia and Maryland both have advertised programs called Civil War Trails that connect the various Civil War sites in those states. Harpers Ferry is associated with many of these programs.

Current and future partnerships between the National Park Service, concessioners, local businesses, and other federal and state historical sites will improve interpretation and visitor opportunities in the region. These partnerships provide additional interpretation, orientation, and visitor access to facilities and services and will improve the visitors experience at the national historical park and in the region. For example, having partners distribute national historical park material and orientation information will assist current and future visitors before they arrive at the national historical park.

This variety of high-quality experience opportunities leads to an overall beneficial effect. Alternative 3 would result in long-term minor to moderate beneficial impacts. When the effects of this alternative are combined with other past, present, and future actions, the overall cumulative effect on visitor experience would be minor and beneficial.

Conclusion

Implementing alternative 3 would result in long-term minor to moderate beneficial impacts on visitor experience. When the effects of this alternative are combined with other past, present, and future actions, the overall cumulative effect on visitor experience would be minor and beneficial.

SOCIOECONOMIC ENVIRONMENT

In alternative 3, the National Park Service would provide an increased connection with business and public/private organizations to (1) greatly enhance visitor opportunities and programming, (2) fully use the national historical park's historic structures, (3) add greater vitality to the national historical park and the economic conditions in the gateway communities, and (4) allow for contemporary adaptive leases of historic structures for non-NPS purposes. This alternative expands on the concept of Harpers Ferry's heritage tourism objectives by blurring the boundary line between the historic business district and the national historical park.

Visitation to the national historical park is expected to be greatest under this alternative because it brings a 19th century community to life. There would be an opportunity to increase regional and national marketing of visitor opportunities by our private and nonprofit partners. A greater diversity of opportunities, such as fee-based tours and activities, more special events, the potential for a weekend excursion train originating from Washington D.C., and the potential for day and overnight trip opportunities would be available for a wider range of visitors. It is expected that repeat visitors and longer stays

would contribute to the increase in visitation since programs would be more varied over time. Spending by visitors in the national historical park and in the local and regional communities for meals, lodging, and other goods and services would be expected to increase above current levels. This would lead to a long-term, moderate beneficial effect on the economy of the gateway communities and a long-term minor beneficial effect on the regional economy.

In alternative 3, the public and private partnerships that would add life and excitement in Lower Town could result in greater commercial activities that could benefit local governments in the form of increased business and occupation taxes. This would have a long-term moderate beneficial effect on the gateway communities.

The National Park Service would explore contemporary, adaptive interior uses of historic structures that could generate revenue for the national historical park, increase the number of business opportunities in the gateway communities, and encourage new visitors to the national historical park. This action would have a long-term moderate beneficial effect on the economy of the gateway communities and a long-term, minor beneficial effect on the regional economy.

The National Park Service would continue to financially support some of the physical infrastructure in the gateway communities, and the national historical park's annual operating expenditures would continue to provide revenue for area businesses. The NPS budget originates from outside the local and regional economy through congressional appropriations, but the funds are spent and recycled primarily in the gateway communities and the regional economy, thus providing ongoing benefits.

The capital improvement budget of the national historical park to implement this alternative would provide short-term revenues in the gateway communities and regional economy. In alternative 3 it is expected that dollars available for capital improvement would increase if revenue from contemporary use leases could be returned to the national historical park and result in a long-term, minor beneficial impact on the gateway communities and a long-term, negligible beneficial effect on the regional economy.

Cumulative Impacts

In the past, Harpers Ferry National Historical Park had a growing visitation and then a decline to a stable annual visitation. The national historical park's operational budget remains stable but is not keeping up with inflation. Another effect on the national historical park's budget is the NPS response to other federal mandates that also contributed to a decline of permanent and seasonal NPS staff. The capital improvement program has varied by year with substantial increases and declines, and the program will continue to have short-term benefits.

As the national historical park's budget declines or remains relatively stable, there would be less revenue to flow through the local economy. The size of the NPS permanent and seasonal staff continues to decline, having a long-term, moderate adverse effect on the economy of the gateway communities and a long-term, minor adverse effect on the regional economy.

The national historical park has a distinct but small fit in the overall size of the regional tourism industry. Both the gateway communities and the regional economies have growing populations and housing trends that have a substantially larger influence on the socioeconomic conditions than that contributed by the existence of the national historical park. These trends are expected to continue into the future.

The impacts of these other actions in combination with the impacts of alternative 3 would result in a long-term, moderate beneficial cumulative effects in the gateway communities and long-term, minor cumulative effects on the regional economy.

Conclusion

Implementing alternative 3 would have a long-term moderate beneficial effect on the economy of the gateway communities and a long-term, minor beneficial effect on the regional economy. This alternative would result in long-term, moderate beneficial cumulative effects in the gateway communities and long-term, minor beneficial cumulative effects on the regional economy. Alternative 3 would contribute a substantial increment to the overall cumulative effect on the economy of the gateway communities and a small increment to the regional economy.

NPS OPERATIONS

Implementing alternative 3 would result in changes to NPS staffing and workloads. In addition to projects already underway, construction of a new visitor center and facilities in outlying areas would need staff attention. This would result in short-term, minor adverse impacts on NPS operations. Long-term impacts on NPS programs from having a new visitor center would be beneficial.

NPS managerial and administrative staff would be moved into consolidated office space somewhere in Harpers Ferry or Bolivar— a long-term, minor beneficial impact. Short-term, minor adverse impacts would occur during the move.

Mixed impacts on NPS operations would result from moving the main maintenance functions to a new facility outside the national historical park. This would eliminate problems associated with moving heavy equipment and receiving material from semi-trucks on narrow residential streets. The new facility would be designed with improved efficiency and adequate size for offices, storage, equipment bays, etc. Adverse impacts on NPS operations could result from this move as the facility would not be owned by the National Park Service. Its operation may have restrictions from the property owner and lease payments would need to be made. Payments could be reduced if the facility was operated in partnership with other entities. Depending on where the facility is located, adverse impacts from the additional travel to the national historical park would be negligible to minor.

Seasonal or event-driven regulation of vehicles in Lower Town may have a short-term adverse effect on NPS operations in terms of administrative access until NPS staff adjusts their schedules to accommodate the restrictions.

The Appalachian National Scenic Trail within the national historical park would continue to be maintained to its current standard. The trail managers at Harpers Ferry would cooperate on a new sign plan to assist visitors in hiking the Appalachian National Scenic Trail through Harpers Ferry National Historical Park and providing information on the Potomac Heritage National Scenic Trail and the Lewis and Clark National Historic Trail. This would result in beneficial impacts to all these entities.

Cumulative Effects

In general, the NPS staff is faced with a rising workload resulting from new NPS initiatives and program requirements. Static base funding does not allow hiring additional employees to alleviate the workload. This creates stress on the employees and some needed projects are not completed due to lack of time or funding.

This alternative would contribute short-term adverse effects and long-term beneficial impacts on the effects listed above. The cumulative effects on NPS operations would be negligible and beneficial.

Conclusion

Alternative 3 would have short-term, minor adverse impacts and long-term, minor beneficial impacts on NPS operations. The cumulative effects on NPS operations would be negligible and beneficial.

UNAVOIDABLE MODERATE TO MAJOR ADVERSE EFFECTS

Under alternative 3, there would be a slight increase in the development footprint as new or expanded structures are constructed at Murphy Farm, Bolivar Heights, Schoolhouse Ridge Battlefield, and on Cavalier Heights. This would result in unavoidable minor adverse impacts. There are no actions in any of the alternatives that would result in unavoidable major adverse impacts on resources or visitor enjoyment.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Changes to the configuration and use of historic buildings for purposes of adaptive reuse could impact historic fabric. As a result, visitor traffic use patterns could change. These alterations in use would have the potential to impact new areas of buildings and could result in irreversible loss of historic fabric.

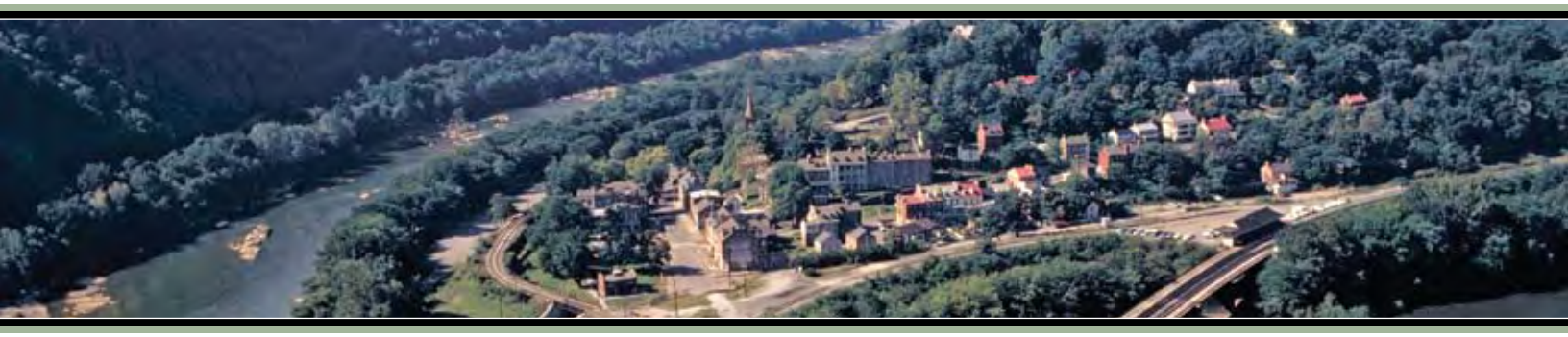
Implementing this alternative would result in the irretrievable loss of approximately 4 acres of vegetation and soil productivity due to construction of facilities.

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

The purpose of Harpers Ferry National Historical Park is to preserve and commemorate the (developed) location of historic events. However, under all alternatives, the majority of the national historical park would be in the scenic and natural preservation zone which does not allow development. The National Park Service would continue to manage these areas under all alternatives to maintain natural ecological processes and native biological communities. Any actions taken by NPS staff would be intended to ensure that human uses do not adversely affect the productivity of existing natural biotic communities.

Under alternative 3 there would be a slight increase in the development footprint as new or expanded structures are constructed at Murphy Farm, Bolivar Heights Schoolhouse Ridge Battlefield, Camp Hill, and on Cavalier Heights. However, this would not result in a substantial loss of long-term productivity because these areas are all previously disturbed and not in a natural state.

CHAPTER 5
CONSULTATION AND COORDINATION



PUBLIC AND AGENCY INVOLVEMENT

The *Draft General Management Plan and Environmental Impact Statement* for Harpers Ferry National Historical Park represents thoughts of the National Park Service planning team, NPS staff, and the public. Consultation and coordination among the agencies and the public were vitally important throughout the planning process. The public could participate during the development of the plan in public meetings, with responses to newsletters, and in comment letters.

PUBLIC MEETINGS AND NEWSLETTERS

Public meetings and newsletters were used to keep the public informed and involved in the planning process for *Harpers Ferry General Management Plan.* A mailing list was compiled that consisted of members of governmental agencies, organizations, businesses, legislators, local governments, and interested citizens.

The notice of intent to prepare an environmental impact statement was published in the *Federal Register* on August 28, 2003.

The first newsletter issued in November 2003 described the planning effort and solicited ideas from the public. Public meetings were held during January 2004 in Shepherdstown and Harpers Ferry, West Virginia. The National Park Service also met with city, county, and state agencies numerous times in 2003 and 2004. The National Park Service received comments in the meetings and in the response to the first newsletter. These comments were considered by the planning team when developing the alternatives.

A second newsletter, distributed in May 2004, described the draft alternative concepts for managing the national historical park. Although comments were not solicited, numerous comments were received in response. The comments offered ideas on how to improve the alternatives.

AGENCIES AND ORGANIZATIONS TO WHICH THIS DOCUMENT WAS SENT

Federal Agencies

Advisory Council on Historic Preservation
Department of Homeland Security
Federal Emergency Management Agency
Harpers Ferry Job Corp
Library of Congress
U.S. Customs Service
U.S. Fish and Wildlife Service
- West Virginia Field Office
- Chesapeake Bay Field Office, Maryland
- Ecological Services, Gloucester, Virginia
- National Conservation Training Center

U.S. Geological Survey
- Leestown Science Center

Other NPS Offices

Antietam National Battlefield
Appalachian National Scenic Trail
C&O Canal National Historical Park
Harpers Ferry Interpretive Design Center
Historic Preservation Training Center
Mather Training Center
Monocacy National Battlefield
National Capital Region
American Battlefield Protection Program
Potomac Heritage National Scenic Trail

State Agencies

Maryland Department of Housing and Community Development
Maryland Department of Natural Resources
- Wildlife and Heritage Division
- Resource Management Services

Maryland Historical Trust
- Maryland State Historic Preservation Office

Virginia Association for Parks
Virginia Department of Conservation and Recreation
Virginia Department of Game and Inland Fisheries
Virginia Department of Historic Resources
- Virginia State Historic Preservation Office

Virginia Department of Recreation and Conservation
Virginia Outdoors Foundation
West Virginia Conservation Agency
West Virginia Department of Natural Resources
West Virginia Department of Transportation
West Virginia Division of Rehabilitation Service
West Virginia Division of Tourism
West Virginia Small Business Development Center
West Virginia Division of Culture and History
- West Virginia State Historic Preservation Office

Elected Officials

Maryland
- Senator Benjamin L. Cardin
- Senator Barbara A. Mikulski
- Representative Wayne Gilchrest
- Representative Roscoe Bartlett
- Representative John P. Sarbanes
- Representative Donna F. Edwards
- Representative Steny H. Hoyer
- Representative Elijah E. Cummings
- Representative Christopher Van Hollen, Jr.
- Representative C. A. Dutch Ruppersberger III
- Governor Martin O'Malley

Virginia
- Senator John W. Warner
- Senator Jim Webb
- Representative Robert J. Wittman
- Representative Robert C. Scott
- Representative J. Randy Forbes
- Representative Virgil H. Goode, Jr.
- Representative Eric Cantor
- Representative Rick Boucher
- Representative Frank R. Wolf
- Representative Thomas M. Davis III
- Representative Thelma D. Drake
- Representative Bob Goodlatte
- Representative James P. Moran
- Governor Tim Kaine

West Virginia
- Senator Robert C. Byrd
- Senator John D. Rockefeller
- Representative Nick J. Rahal II
- Representative Alan B. Mollohan
- Representative Shelley Moore Capito
- Governor Joe Manchin III

Local/Regional/National Organizations and Media

American Association for State and Local History
American Association of Retired Persons, Jefferson County Chapter
American Civil War Society
American Farmland Trust
Appalachian Trail Conservancy
Appalachian Trail Museum Society
Arlington National Cemetery
Arts and Humanities Alliance of Jefferson County
Audubon Naturalistic Society of the Central Atlantic States
Berkley County
Berkeley County Development Authority
Berkeley County Historical Society
Berkeley Springs/Morgan County Chamber of Commerce
Big Brothers/Big Sisters of Eastern Panhandle
Black Heritage Museum
Blue Heron Environmental Network Inc.
Bolivar, West Virginia
Bolivar Community Center
Bolivar/Harpers Ferry Public Library

Boy Scout Troop 32 (WV)
Boy Scouts of America, Shenandoah Area Council
Boys and Girls Club of Jefferson County
Catoctin Center for Regional Studies
Center for the Study of Public History and Public Culture, Dr. James Horton Banneker, Professor of American Studies and History
Charles Town Kiwanis
Citizens for Jefferson's Future
City of Bedington
City of Berryville
City of Brunswick
City of Frederick
City of Hagerstown
City of Hamilton
City of Leesburg
City of Martinsburg
City of Middleburg
City of Purcellville
Civil War Round Table Association
Civil War Round Table of the District of Columbia
Civil War Society
Clarke County Office of Economic Development (VA)
Clarke County Planning Department (VA)
Claymont Society for Continuous Education
Conservation Fund
Corporation of Harpers Ferry
Corporation of Shepherdstown
Council on America's Military Past
Eastern Panhandle Native Plant Society
Fort Frederick State Park
Fort Ward Museum
Frederick County Administrative Offices
Frederick County Board of County Commissioners
Frederick County Chamber of Commerce
Frederick County Civil War Round Table
Frederick County Division of Planning
Friends of Harpers Ferry National Historical Park
Friends of Monocacy Battlefield
Gathland State Park
George Tyler Moore Center for the Study of the Civil War
Germantown, MD
Gettysburg College Civil War Institute
Girl Scouts of the USA
Greenbriar State Park
Harpers Ferry Civil War Round Table
Harper's Ferry Conservancy
Harpers Ferry Garden Club
Harpers Ferry Historical Association
Harpers Ferry Main Street
Harpers Ferry Merchants Association
Harpers Ferry Women's Club Region VII Workforce Investment Board
Historic Shepherdstown and the Historic Shepherdstown Museum
Historic Sites Consortium
Homeowner's Associations in Jefferson County
Howard University
Dr. Medford, Department of History
Joseph Reidy, Department of History
Jefferson County Chamber of Commerce
Jefferson County Commissioners
Jefferson County Convention & Visitor Bureau
Jefferson County Development Authority
Jefferson County Economic Development
Jefferson County Historical Society
Jefferson County League of Women Voters
Jefferson County Museum
Jefferson County Parks and Recreation
Jefferson County Rafting Businesses
Jefferson County Realtors
Jefferson County Visitor Center
Jefferson County Watersheds Coalition
Land Trust of the Eastern Panhandle
Loudoun County
Loudoun County Chapter, Izaak Walton League of America
Loudoun County Civil War Round Table
Loudoun Convention and Visitors Association
Loudoun County Small Business Development Center
Loudoun County Chapter
Loudoun Wildlife Conservancy
Main Street Loudoun
Main Street Martinsburg (WV)

Martinsburg/Berkeley County Chamber of Commerce
Maryland Environmental Trust
Maryland Historical Society
Maryland Native Plant Society
Maryland Ornithological Society, Inc.
Morgan County
Morgan County Citizen's Coalition
Morgan County Economic Development Authority
Museum of the Confederacy
NAACP Jefferson County Branch (WV)
NAACP Environmental Justice Program
National Audubon Society
National Park Foundation
National Parks and Conservation Association
National Trust for Public Lands
Northern Virginia Association of Historians
Odd Fellows
Old Dominion University
Piedmont Garden Club
Potomac Appalachian Trail Club
Potomac-Mecklenburg Garden Club
Potomac Valley Audubon Society
Save Historic Antietam Foundation
Shenandale Garden Club
Shepherd College
Shenandoah University
Shepherdstown Kiwanis
Shepherdstown Rotary Club
Shephardstown Visitors Center
Sierra Club, Eastern Panhandle Chapter
Sierra Club, Maryland Chapter
Small Business Development Center, Virginia and West Virginia
Sons of Union Veterans of the Civil War
South Mountain State Park
Storer College Alumni Association
The Civil War Preservation Trust
The Kiplinger Washington Editors, Inc.
The Nature Conservancy (WV, Yankauer Preserve)
Town of Leesburg
Town of Winchester
Tourism Council of Frederick County
USA Military History Institute
Virginia Association for Parks
Virginia Canals and Navigation Society
Virginia Conservation Network
Virginia Native Plant Society
Virginia Outdoors Foundation
Virginia Society of Ornithology
Washington County
Washington Monument State Park
West Virginia Highlands Conservancy
West Virginia University
Kearneysville Tree Fruit Research and Education Center
West Virginia Wildlife Federation Inc.
Winchester, VA

Businesses

AB&C Group, Inc.
Accounting Services Ltd.
Anglers Inn
Angles Home Service
Automated Merchandising Systems
Bakerton Market
Bank of Charles Town
Bavarian Inn
Bedington Ruritan Club
Between the Rivers Bed &Breakfast
Blue Ridge Management
Blue Ridge Management Realty
Blue Ridge Properties
Bolivar Court Apartments
Boydsville Inn
Briscoe B&B
Burch Manufacturing
Charles Town Races
Charles Town Realty
Claymont Court Bed & Breakfast
Comfort Inn Comfort Suites
Cool font Resort
Country Café
Country Inn & Spa
CSX Corporation
DALB, Inc.
Dan Ryan Builders
Eastern Management Development Center
ERA Liberty of Harpers Ferry
ERA Liberty Realty
Farmhouse on Tomahawk Run B&B
Folkstone Bed & Breakfast
Frank's Blueridge Grocery
Frederick Chamber of Commerce

Fridley Enterprise
Gilbert House Bed & Breakfast Glens Country Estate
Ghost Tours of Harpers Ferry
Harpers Ferry Guest House
Harpers Ferry KOA and Conference Center
Harpers Ferry Merchant Association
Harpers Ferry Realty
Hartwood Mansion
Highway Inn
Hillbrook Inn
Hilltop House
ICT Group
Jason's Antiques
Jefferson Asphalt Products Co., Inc.
Jefferson County Bed and Breakfasts
Judy's Pet Sitting
Juke Joint
Jumpin Java
Kent Cartridge of West Virginia
Kiddie Fire Fighting/Automated Sprinkler
King's Pizza & Italian Restaurant KOA Campgrounds
KRM Associates, Inc.
Lowe Products
Manor Inn Bed & Breakfast
Maple Creek, Inc.
Maria's Garden & Inn
McCarthy Time
McMahon & Sons
Mill Creek Manor Bed & Breakfast
Millennium Style
Millville Quarry
Mountain House Café
Norm Thompson Outfitters, Inc.
North Gate Inn
Old Dittmeyer House Outfitter
Olde Tyme Christmas in Harpers Ferry
Quality Inn & Conference Center
Ranson Convention & Visitor Center
Re/Max in Action
Recreational Adventure Campgrounds
Republic Paperboard Company
River Rider
River and Trail Outfitters
Royal Vendors, Inc.
Schonstedt Instruments
Schwans Enterprises
Shenandoah Construction Management, L.L.C.
Small Business Development Center
South Mountain Relic and Coin
Specialty Binding & Printing
Spectratech
Stone House Antiques
Summit Point Raceway
The Anvil Restaurant
The Last Resort
The Outfitters at Harpers Ferry
The Swiss Miss
Turf Motel
Twins Mountain Retreat
Waterside Restaurant
Woods Resort & Conference Center
Yesterday's Treasures

SECTION 7 CONSULTATION (ENDANGERED SPECIES ACT)

During the preparation of this document, NPS staff consulted informally with the U.S. Fish and Wildlife Service Offices in West Virginia, Maryland, and Virginia. The list of threatened and endangered species (see appendix C) was compiled using lists and information received from the U.S. Fish and Wildlife Service.

In accordance with the Endangered Species Act and relevant regulations at 50 CFR Part 402, the National Park Service determined that the management plan is not likely to adversely affect any federally threatened or endangered species and sent a copy of this draft management plan to the U.S. Fish and Wildlife Service with a request for written concurrence with that determination.

In addition, the National Park Service has committed to consult on future actions conducted under the framework described in this management plan to ensure that such actions are not likely to adversely affect threatened or endangered species.

SECTION 106 CONSULTATION

Agencies that have direct or indirect jurisdiction over historic properties are required by Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470, et seq.) to take into account the effect of any undertaking on properties eligible for listing in the National Register of Historic Places. To meet the requirements of 36 CFR 800, the National Park Service sent letters to the state historic preservation officers in West Virginia, Maryland, and Virginia, and the Advisory Council on Historic Preservation on January 6, 2004, informing them of the planning process and inviting their participation; their concerns have been incorporated into this plan (see letters in appendix F). All offices were sent all the newsletters with a request for comments.

Under the terms of stipulation VI.E of the current programmatic agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, the National Park Service, in consultation with the state historic preservation office (SHPO), will make a determination about which are programmatic exclusions under IV A and B, and all other undertakings, potential effects on those resources to seek review and comment under 36 CFR 800.4-6 during the plan review process.

TABLE 15. FUTURE RESOURCE COMPLIANCE REQUIRED FOR IMPLEMENTATION OF SPECIFIC ACTIONS OF THE PREFERRED ALTERNATIVE (ALTERNATIVE 2)

ACTION	COMPLIANCE REQUIREMENT
LOWER TOWN	
Rehabilitation of historic buildings for residences or offices on upper floors.	Further SHPO consultation necessary
Modification of "backyard" spaces for interpretive purposes.	Further SHPO consultation necessary
Location of historic structures marked or outlined on the green.	Further SHPO consultation necessary
Develop period authentic landscaping plan.	Further SHPO consultation necessary
FEDERAL ARMORY	
Locating and marking of Armory building foundations.	Further SHPO consultation necessary
Conduct archeological investigations prior to exposing/ ghosting foundations.	Further SHPO consultation necessary
Study feasibility of moving John Brown's Fort back to original location.	Further SHPO consultation necessary
Fee kiosk needed at train station.	Further SHPO consultation necessary
HALL'S/VIRGINIUS ISLANDS	
Locating and marking of Armory building foundations.	Further SHPO consultation necessary
Wayside interpretive signs.	No further SHPO consultation necessary
Stabilize representative structural ruins.	Further SHPO consultation necessary
Development of a discovery trail.	Further SHPO consultation necessary
LOUDOUN HEIGHTS	
Preparation of preservation plan for Civil War defensive works (e.g. camps and earthwork fortifications).	Further SHPO consultation necessary
Remove nonhistoric Sherwood House and develop location as Civil War overlook with interpretation, parking, and vista clearing.	No further SHPO consultation necessary
Maintain existing trails and evaluate need for new trails.	No further SHPO consultation necessary
Restore historic military line of fire vistas for interpretive purposes.	Further SHPO consultation necessary
MARYLAND HEIGHTS	
Preparation of preservation plan for Civil War defensive works (e.g., camps and earthwork fortifications). Historic roads continue to be used and maintained.	Further SHPO consultation necessary
Restore historic military line of fire vistas for interpretive purposes.	Further SHPO consultation necessary

ACTION	COMPLIANCE REQUIREMENT
SHORT HILL	
Preparation of preservation plan for Civil War defensive works (e.g., camps and earthwork fortifications).	Further SHPO consultation necessary
Preserved as natural area, viewshed (backdrop for view from Jefferson Rock).	No further SHPO consultation necessary
CAMP HILL	
Marking existing Storer building foundations.	Further SHPO consultation necessary
Rehabilitation of Shipley School.	Further SHPO consultation necessary
Rehabilitation and adaptive reuse of historic buildings' first floor for interpretation and upper floors for lease or NPS purposes.	Further SHPO consultation necessary
Development of satellite maintenance facilities in outlying locations.	Further SHPO consultation necessary
Development and implementation of period lighting plan.	Further SHPO consultation necessary
Landscape modified to represent college campus landscape.	Further SHPO consultation necessary
Historically appropriate tree species would be planted.	No further SHPO consultation necessary
BOLIVAR HEIGHTS	
Preparation of preservation plan for Civil War defensive works (e.g. camps and earthwork fortifications).	Further SHPO consultation necessary
Heights maintained as a battlefield landscape.	No further SHPO consultation necessary
restrooms/drinking water.	Further SHPO consultation necessary
NASH FARM	
Preserve exteriors as dairy farm for original appearance.	Further SHPO consultation necessary
Field/meadow is maintained for agricultural purposes.	No further SHPO consultation necessary
Adaptive reuse of interiors at Nash Farm.	Further SHPO consultation necessary
POTOMAC TERRACE	
Adaptive reuse of Grandview School for protection services use.	Further SHPO consultation necessary
Exterior wayside panel at Grandview for interpretation as segregated school.	No further SHPO consultation necessary

ACTION	COMPLIANCE REQUIREMENT
CAVALIER HEIGHTS	
Construction of multipurpose visitor center entrance complex.	No further SHPO consultation necessary
Development actions requiring ground disturbance.	Further SHPO consultation necessary
SCHOOLHOUSE RIDGE BATTLEFIELD, NORTH AND SOUTH WORKS	
Preparation of preservation plan for Civil War defensive works (e.g., camps and earthwork fortifications).	Further SHPO consultation necessary
Remove houses and structures not eligible for inclusion in the National Register of Historic Places.	No further SHPO consultation necessary
Restore landscape by removing former private campground.	No further SHPO consultation necessary
Historic structures would be evaluated in connection with restoration of cultural landscape.	Further SHPO consultation necessary
Maintained to 1862 historic landscape through agricultural leases.	No further SHPO consultation necessary
Develop satellite maintenance facility.	Further SHPO consultation necessary
Develop interpretive/hiking trails on existing roads.	No further SHPO consultation necessary
Use of location as historic demonstration area.	Further SHPO consultation necessary
Development of vault toilets.	Further SHPO consultation necessary
POTOMAC FRONTAGE	
Restore landscape by stabilizing canal walls and headgate structure for rewatering of canal.	Further SHPO consultation necessary
Power plant rehabbed for interpretive use.	Further SHPO consultation necessary
Turbine in power plant restored for interpretive demonstration.	Further SHPO consultation necessary
MURPHY FARM	
Evaluate Chambers/Murphy house for adaptive reuse for NPS purposes.	Further SHPO consultation necessary
Stabilize and preserve John Brown's Fort foundation.	Further SHPO consultation necessary
Preparation of preservation plan for Civil War defensive works (e.g., camps and earthwork fortifications.	Further SHPO consultation necessary
Development of hiking trail.	Further SHPO consultation necessary
Development of parking area with bus turn-around.	Further SHPO consultation necessary

ACTION	COMPLIANCE REQUIREMENT
POTOMA WAYSIDE	
Upgrade toilet facilities.	No further SHPO consultation necessary
Hardened access at river take-out.	Further SHPO consultation necessary
Trail improved for safety or resource protection.	Further SHPO consultation necessary
PARKWIDE	
Construction involving a waterway.	Section 404 permit from Army Corp of Engineers
Construction or other disturbing activity in habitat for threatened and endangered species.	Threatened and endangered species surveys and coordination with the USFWS and state natural resource departments

Appendixes, Selected References, Preparers and Consultants, and Index

24. Harpers Ferry National Monument

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Establishment of monument and acquisition of lands authorized ---------- Act of June 30, 1944	434
Acquisition of certain lands for addition to monument authorized ---------- Act of July 14, 1960	435

An Act To provide for the establishment of the Harpers Ferry National Monument, approved June 30, 1944 (58 Stat. 645)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior be, and he is hereby, authorized to accept donations of land, interest in land, buildings, structures, and other property in the vicinity of Harpers Ferry, West Virginia, not to exceed one thousand five hundred acres, as the Secretary of the Interior may deem necessary to carry out the purposes of this Act, and donations of funds for the purchase and maintenance thereof, the evidence of title to such lands to be satisfactory to the Secretary of the Interior. Any Federal land within the area designated by the Secretary of the Interior as necessary for monument purposes shall be transferred to the administration of the Department of the Interior and when so transferred shall become a part of the monument: *Provided*, That the Federal department or agency having administration over such land shall agree in advance to such transfer. (16 U.S.C. § 450bb.)

Harpers Ferry National Monument. Acceptance of donations.

Transfer of Federal land.

Property acquired to constitute national memorial.

SEC. 2. The property acquired under the provisions of section 1 of this Act shall constitute the Harpers Ferry National Monument and shall be a public national memorial commemorating historical events at or near Harpers Ferry. The Director of the National Park Service under the direction of the Secretary of the Interior, shall have the supervision, management, and control of such national monument, and shall maintain and preserve it for the benefit and enjoyment of the people of the United States, subject to the provisions of the Act of August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes", as amended. (16 U.S.C. § 450bb–1.)

Control.

16 U.S.C. §§ 1–4, 22, 43.

SEC. 3. The Secretary of the Interior is authorized to—

Museum for relics and records.

(1) Maintain, either in an existing structure acquired under the provisions of section 1 of this Act or in a building constructed by him for the purpose, a museum for relics and records pertaining to historic events that took place at Harpers Ferry, and for other relics of national and patriotic interest, and to accept on behalf of the

United States, for installation in such museum, articles which may be offered as additions to the museum; and

(2) Construct roads and facilities and mark with monuments, tablets, or otherwise, points of interest within the boundaries of the Harpers Ferry National Monument. (16 U.S.C. § 450bb–2.)

Roads and facilities.

SEC. 4. There are authorized to be appropriated such sums as may be necessary to carry out the improvements and maintenance on the lands and sites donated under the provisions of this Act. (16 U.S.C. § 450bb note.)

Appropriation authorized.

An Act To authorize the acquisition of certain lands for addition to Harpers Ferry National Monument, and for other purposes, approved July 14, 1960 (74 Stat. 520)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That to further the commemorative purposes of the Act of June 30, 1944 (58 Stat. 645), by providing historic properties and administrative facilities, the Secretary of the Interior is hereby authorized to acquire, in the manner hereafter stated, the Storer College site, the original site of John Brown's "Fort" and the old Federal armory, comprising altogether approximately thirty acres for addition to Harpers Ferry National Monument. (16 U.S.C. § 450bb–3 [Supp. II].)

Harpers Ferry National Monument.

SEC. 2. (a) The Secretary of the Interior may accept the conveyance of all right, title, and interest of the trustees of Storer College in and to the lands and improvements in Harpers Ferry, West Virginia, granted to their predecessors for educational purposes pursuant to section 2 of the Act of December 15, 1868 (15 Stat. 266), upon payment to said trustees of not more than the current fair market value of the improvements located upon such lands. The Secretary may also purchase lands, interests therein, and improvements thereon, which lands were granted to the trustees of Storer College pursuant to such Act of 1868 and subsequently were alienated by the trustees: *Provided*, That he may pay not in excess of the amount paid therefor by the then owners plus the cost of existing improvements placed thereon by them, and, in no event may he pay more than the current fair market value. The Secretary may also purchase from the trustees of Storer College, at not more than their fair market value, other lands and interests in lands acquired by them or their predecessors as a part of the college site, together with any improvements thereon. In addition, up to seven acres of privately owned lands, interests therein, and improvements thereon, which are interspersed with the aforesaid college lands may be purchased by the Secretary. Lands and interests purchased under this subsection may be exchanged for other lands, and interests therein, of approximately equal value, which comprise the college and interspersed lands otherwise authorized herein for purchase.

(b) To facilitate the acquisition of the original site of the engine house known as John Brown's "Fort" and the old Federal arsenal, the Secretary of the Interior is hereby authorized to exchange therefor federally owned park lands or interests in lands of approximately equal value in the vicinity of Cumberland, Maryland, which he finds are no longer required for park purposes. (16 U.S.C. § 450bb–4 [Supp. II].)

Appropriation.

SEC. 3. There are authorized to be appropriated such sums, not to exceed $300,000, as may be necessary for the purchase of lands, interests therein, and improvements thereon pursuant to this Act. (16 U.S.C. § 450bb–5 [Supp. II].)

4. Harpers Ferry

An Act to change the name of Harpers Ferry National Monument to Harpers Ferry National Historical Park. (77 Stat. 52)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Harpers Ferry National Monument established pursuant to the Act entitled "An Act to provide for the establishment of the Harpers Ferry National Monument", approved June 30, 1944 (58 Stat. 645), shall hereafter be known as Harpers Ferry National Historical Park, and any law, regulation, document, or record of the United States in which such monument is designated or referred to under the name of Harpers Ferry National Monument shall be held to refer to such monument under and by the name of Harpers Ferry National Historical Park.

Approved May 29, 1963.

Legislative History

House Report No. 291 (Interior and Insular Affairs Committee).
Senate Report No. 114 (Interior and Insular Affairs Committee).
Congressional Record, Vol. 109, 1963:
Apr. 9: Considered and passed Senate.
May 20: Considered and passed House.

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7. Harpers Ferry

An Act to amend the Act of June 30, 1944, an Act "To provide for the establishment of the Harpers Ferry National Monument", and for other purposes. (88 Stat. 1420) (P.L. 93-466)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act of June 30, 1944 (58 Stat. 645; 16 U.S.C. 450bb), an Act "To provide for the establishment of the Harpers Ferry National Monument", is amended as follows:

(1) In section 1, the first sentence is amended to read: "That, in order to carry out the purposes of this Act, the Secretary of the Interior is authorized to acquire lands or interests in lands, by donation, purchase with donated or appropriated funds, or exchange, within the boundaries as generally depicted on the drawing entitled 'Boundary Map, Harpers Ferry National Historical Park', numbered 385-40,000D and dated April 1974, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior: *Provided*, That after advising the Committees on Interior and Insular Affairs of the Congress of the United States, in writing, the Secretary may make minor revisions in the boundary, when necessary, by publication of a revised drawing or other boundary description in the Federal Register, but the total acreage shall not exceed two thousand acres: *Provided further*, That nothing herein shall be deemed to authorize the acquisition, without consent of the owner, of a fee simple interest in lands within the boundaries in which a less than fee interest has previously been acquired by the Secretary of the Interior."

(2) In section 3, delete the word "and" at the end of paragraph (1); change the period at the end of paragraph (2) to a semicolon and add "and"; and add the following new paragraph:

"(3) Provide, directly or by contract, subject to the provisions of the Act of June 7, 1974 (88 Stat. 192; 16 U.S.C. 4601-6a) an interpretive shuttle transportation service within, between, and among lands acquired for the purpose of this Act for such times and upon such terms as in his judgment will best accomplish the purposes of this Act."

(3) Revise section 4 to read as follows:

"In addition to such sums as have heretofore been appropriated, there are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, but not more than $1,300,000 for the acquisition of lands and interests in lands, and not more than $8,690,000 for development."

Approved October 24, 1974.

Legislative History:
House Report No. 93-1358 accompanying H.R. 12972 (Comm. on Interior and Insular Affairs).
Senate Report No. 93-874 (Comm. on Interior and Insular Affairs).
Congressional Record, Vol. 120 (1974):
May 28, considered and passed Senate.
Oct. 7, considered and passed House, amended, in lieu of H.R. 12972.
Oct. 8, Senate concurred in House amendment.

An Act to authorize additional appropriations for the acquisition of lands and interests in lands within the Sawtooth National Recreation Area in Idaho. (92 Stat. 3467) (P.L. 95-625)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—DEVELOPMENT CEILING INCREASES

SEC. 101. The limitations on funds for development within certain units of the National Park System and affiliated areas are amended as follows:

* * * * * * *

(14) Harper's Ferry National Historical Park, Maryland-West Virginia: Section 4 of the Act of June 30, 1944 (58 Stat. 645), is amended further by changing "$8,690,000" to "$12,385,000".

* * * * * * *

Approved November 10, 1978.

PUBLIC LAW 108–307—SEPT. 24, 2004 118 STAT. 1133

Public Law 108–307
108th Congress

An Act

To revise the boundary of Harpers Ferry National Historical Park, and for other purposes.

Sept. 24, 2004
[S. 1576]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Harpers Ferry National Historical Park Boundary Revision Act of 2004.
West Virginia.
16 USC 450bb note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Harpers Ferry National Historical Park Boundary Revision Act of 2004".

SEC. 2. HARPERS FERRY NATIONAL HISTORICAL PARK.

The first section of the Act of June 30, 1944 (58 Stat. 645, chapter 328; 16 U.S.C. 450bb), is amended to read as follows:

"SECTION 1. HARPERS FERRY NATIONAL HISTORICAL PARK.

"(a) IN GENERAL.—To carry out the purposes of this Act, the Secretary of the Interior (referred to in this Act as the 'Secretary') is authorized to acquire, by purchase from a willing seller with donated or appropriated funds, by donation, or by exchange, land or an interest in land within the boundaries as generally depicted on the map entitled 'Boundary Map, Harpers Ferry National Historical Park', numbered 385–80,021A, and dated April 1979.

"(b) BRADLEY AND RUTH NASH ADDITION.—The Secretary is authorized to acquire, by donation only, approximately 27 acres of land or interests in land that are outside the boundary of the Harpers Ferry National Historical Park and generally depicted on the map entitled 'Proposed Bradley and Ruth Nash Addition—Harpers Ferry National Historical Park', numbered 385–80056, and dated April 1, 1989.

"(c) BOUNDARY EXPANSION.—

"(1) IN GENERAL.—The Secretary is authorized to acquire, by purchase from a willing seller with donated or appropriated funds, by donation, or by exchange, land or an interest in land within the area depicted as 'Private Lands' on the map entitled 'Harpers Ferry National Historical Park Proposed Boundary Expansion', numbered 385/80,126, and dated July 14, 2003.

"(2) ADMINISTRATION.—The Secretary shall—

"(A) transfer to the National Park Service for inclusion in the Harpers Ferry National Historical Park (referred to in this Act as the 'Park') the land depicted on the map referred to in paragraph (1) as 'U.S. Fish and Wildlife Service Lands' and revise the boundary of the Park accordingly; and

"(B) revise the boundary of the Park to include the land depicted on the map referred to in paragraph (1) as 'Appalachian NST' and exclude that land from the boundary of the Appalachian National Scenic Trail.

"(d) MAXIMUM NUMBER OF ACRES.—The number of acres of the Park shall not exceed 3,745.

"(e) MAPS.—The maps referred to in this section shall be on file and available for public inspection in the appropriate offices of the National Park Service.

"(f) ACQUIRED LAND.—Land or an interest in land acquired under this section shall become a part of the Park, subject to the laws (including regulations) applicable to the Park.

"(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section.".

SEC. 3. CONFORMING AMENDMENTS.

Sections 2 and 3 of the Act of June 30, 1944 (58 Stat. 646, chapter 328; 16 U.S.C. 450bb–1, 450bb–2), are amended by striking "Secretary of the Interior" each place it appears and inserting "Secretary".

Approved September 24, 2004.

LEGISLATIVE HISTORY—S. 1576:

HOUSE REPORTS: No. 108–655 (Comm. on Resources).
SENATE REPORTS: No. 108–236 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 150 (2004):
May 19, considered and passed Senate.
Sept. 13, considered and passed House.

APPENDIX B: LAWS AND EXECUTIVE ORDERS

LEGAL CITATIONS

NATIONAL PARK SERVICE ENABLING LEGISLATION

Act of August 25, 1916 (National Park Service Organic Act), P.L. 64-235, 16 U.S.C. §1 *et seq*. as amended
Act of March 3, 1933, 47 Stat. 1517
Act to Improve the Administration of the National Park System, August 18, 1970; P.L. 91-383, 84 Stat. 825, as amended by P.L. 94-458, P.L. 95-250, and P.L. 95-625; 16 U.S.C. § 1a1 *et seq*.
General Authorities Act, October 7, 1976, P.L. 94-458, 90 Stat. 1939, 16 U.S.C. §1a-1 *et seq*
Act amending the Act of October 2, 1968 (commonly called Redwoods Act), March 27, 1978, P.L. 95-250, 92 Stat. 163, 16 U.S.C. §§1a-1, 79a-q
National Parks and Recreation Act, November 10, 1978, P.L. 95-625, 92 Stat. 3467; 16 U.S.C. §1 *et seq*.
NPS resources, improve ability to manage, P.L. 101-337, 16 U.S.C. §19jj
National Parks Omnibus Management Act of 1998, P.L. 105-391, Title IV, National Park Service Concessions Management Improvement Act of 1998

OTHER LAWS AFFECTING NATIONAL PARK SERVICE

Accessibility

Americans with Disabilities Act, P.L. 101-336, 104 Stat. 327, 42 U.S.C. §12101
Architectural Barriers Act of 1968, P.L. 90-480, 82 Stat. 718, 42 U.S.C. §4151 *et seq*.
Architectural Barriers Act Accessibility Guidelines (5/8/06)
Rehabilitation Act of 1973, P.L. 93-112, 87 Stat. 357, 29 U.S.C. §701 *et seq*. as amended by the Rehabilitation Act Amendments of 1974, 88 Stat. 1617

Cultural Resources

American Indian Religious Freedom Act, P.L. 95-341, 92 Stat. 469, 42 U.S.C. §1996
Antiquities Act of 1906, P.L. 59-209, 34 Stat. 225, 16 U.S.C. §432 and 43 CFR 3
Archaeological and Historic Preservation Act of 1974, P.L. 93-291, 88 Stat. 174, 16 U.S.C. §469
Archaeological Resources Protection Act of 1979, P.L. 96-95, 93 Stat. 712, 16 U.S.C. §470aa *et seq* and 43 CFR 7, subparts A and B, 36 CFR 79
Executive Order 13007: Indian Sacred Sites, May 24, 1996
Historic Sites Act, P.L. 74-292, 49 Stat. 666, 16 U.S.C. §§ 461-467 and 36 CFR 65
Historic Preservation Certifications Pursuant to the Tax Reform Act of 1976, the Revenue act of 1978, the Tax Treatment Extension Act of 1980, and the Economic Recovery Tax Act of 1981, 36 CFR 67
Management of Museum Properties Act of 1955, P.L. 84-127, 69 Stat. 242, 16 U.S.C. §18f
National Historic Preservation Act as amended, P.L. 89-665, 80 Stat. 915, 16 U.S.C. §470 *et seq* and 36 CFR 18, 60, 61, 63, 68, 79, 800
Native American Grave Protection and Repatriation Act, P.L. 101-601, 104 Stat. 3049, 25 U.S.C. §§3001-3013

Presidential Memorandum of April 29, 1994 "Government-to-Government Relations with Native American Tribal Governments," 59 FR 85
Public Buildings Cooperative Use Act of 1976, P.L. 94-541, 90 Stat. 2505, 42 U.S.C. §4151-4156
World Heritage Convention, 1980, P.L. 96-515, 94 Stat. 3000

Natural Resources

Acid Precipitation Act of 1980, P.L. 96-294, 94 Stat. 770, 42 U.S.C. §8901 *et seq*
Bald and Golden Eagles Protection Act as amended, P.L. Chapter 28, 54 Stat 250, 16 U.S.C. §§668-668d
Clean Air Act as amended, P.L. Chapter 360, 69 Stat. 322, 42 U.S.C. §7401 *et seq*.
Comprehensive Environmental Response Compensation and Liability Act (commonly referred to as CERCLA or Superfund), P.L. 96-510, 94 Stat.2767, 42 U.S.C. §9601 *et seq*
Endangered Species Act of 1973, as amended, P.L. 93-205, 87 Stat. 884, 16 U.S.C. §1531 *et seq*.
Endangered Species Conservation Act of 1969,
Executive Order 11988: Floodplain Management, 42 FR 26951, 3 C.F.R. 121 (Supp 177)
Executive Order 11990: Protection of Wetlands, 42 FR 26961, 3 C.F.R. 121 (Supp 177)
Executive Order 11991: Protection and Enhancement of Environmental Quality
Farmland Protection Policy Act of 1982, P.L. 97-98
Federal Cave Resources Protection Act of 1988, P.L. 94-377, 102 Stat. 4546, 16 U.S.C. §4301
Federal Water Pollution Control Act (commonly referred to as Clean Water Act), P.L. 92-500, 33 U.S.C. §1251 *et seq*. as amended by the Clean Water Act, P.L. 95-217
Fish and Wildlife Coordination Act of 1958 as amended, P.L. 85-624, 72 Stat. 563, 16 U.S.C. §661 *et seq*.
Flood Disaster Protection Act of 1973, P.L. 93-234, 87 Stat. 975, 12 U.S.C. §24, §1709-1
Migratory Bird Conservation Act, P.L. Chapter 257, 45 Stat. 1222, 16 U.S.C. §715 *et seq*
Migratory Bird Treaty Act of 1918, P.L. 186, 40 Stat. 755
National Environmental Policy Act of 1969, P.L. 91-190, 83 Stat. 852, 42 U.S.C. §4321 *et seq*.
National Flood Insurance Act of 1968, P.L. 90-448, 82 Stat. 572, 42 U.S.C. §4001 *et seq*, as amended
National Park System Final Procedures for Implementing E.O. 11988 and 11990 (45 FR 35916 as revised by 47 FR 36718)
Protection and Enhancement of Environmental Quality, E.O. 11514 as amended, 1970, E.O. 11991, 35 *Federal Register* 4247; 1977, 42 *Federal Register* 26967)
Resource Conservation and Recovery Act, P.L. 94-580, 30 Stat. 1148, 42 U.S.C. §6901 *et seq*.
Rivers and Harbors Act of 1899, 33 U.S.C. Chapter 425, as amended by P.L. 97-332, October 15, 1982 and P.L. 97-449, 33 U.S.C. §§401-403
Safe Drinking Water Act, P.L. 93-523, 88 Stat. 1660, 42 U.S.C. §300f *et seq*., 42 U.S.C. §201 and 21 U.S.C. §349
Soil and Water Resources Conservation Act of 1977
Water Resources Planning Act of 1965 (P.L. 89-80, 42 U.S.C. § 1962 *et seq*.) and Water Resource Council's Principles and Standards, 44 FR 723977
Watershed Protection and Flood Prevention Act, P.L. 92-419, 68 Stat. 666, 16 U.S.C. §100186

Other

Administrative Procedures Act, 5 U.S.C. § 551-559, §§701-706
Concessions Policy Act of 1965, P.L. 89-249, 79 Stat. 969, 16 U.S.C. § 20 *et seq*.
Department of Transportation Act of 1966, P.L. 89-670, 80 Stat. 931, 49 U.S.C. § 303
Disposal of Materials on Public Lands (Material Act of 1947), 30 U.S.C. §§601-604
Energy Supply and Environmental Coordination Act of 1974
Executive Order 11987: Exotic Organisms, 42 FR 26407
Executive Order 12003: Energy Policy and Conservation, 3 C.F.R. 134 (Supp. 1977), 42 U.S.C. § 2601
Executive Order 12008: Federal Compliance with Pollution Control Standards
Executive Order 12372: Intergovernmental Review of Federal Programs, 47 FR 30959
Freedom of Information Act, P.L. 93-502, 5 U.S.C. §552 *et seq*.
Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory, 45 FR 59189, 08/15/80, ES 80-2
Intergovernmental Cooperation Act of 1968, P.L. 90-577, 40 U.S.C. §§ 531-535 and 31 U.S.C. §§6501-6508
Intergovernmental Coordination Act of 1969, 42 U.S.C. §§4101, 4231, 4233
Land and Water Conservation Fund Act of 1965 as amended, P.L. 88-578, 78 Stat. 897, 16 U.S.C. §§460*l*-4 to 460*l*-11
Mineral Materials Disposal Act of 1947, 30 U.S.C. §601 *et seq*.
National Trails System Act, P.L. 90-543, 82 Stat. 919, 16 U.S.C. §§1241-1251
Noise Control Act of 1972 as amended, P.L. 92-574, 42 U.S.C. §4901 *et seq*.
Outdoor Recreation Coordination Act of 1963, P.L. 88-29, 77 Stat. 49
Payment in Lieu of Taxes Act, P.L. 94-565, 90 Stat. 2662, 31 U.S.C. §6901 *et seq*.
Policies on Construction of Family Housing for Government Personnel, OMB A-18
Procedures for Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory, E.S. 80-2, 08/15/80, 45 FR 59191
Revised Statute 2477, Right-of-way across Public Lands, Act of July 26, 1866, 43 U.S.C. §932 (1976), repealed by FLPMA §706(a) October 21, 1976
Surface Resources Use Act of 1955, 30 U.S.C. §601 *et seq*.
Surface Transportation Assistance Act of 1982, 96 Stat. 2097, 23 U.S.C. §§101 and many others
Toxic Substances Control Act, P.L. 94-469, 90 Stat. 2003, 15 U.S.C. §2601
Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, P.L. 91-646, 84 Stat. 1894, 42 U.S.C. §4601 *et seq*.
Urban Park and Recreation Recovery Act of 1978, P.L. 95-625, 92 Stat. 3467, 16 U.S.C. §2501 *et seq*.
Wild and Scenic Rivers Act, P.L. 90-542, 82 Stat. 906, 16 U.S.C. §§1271-1287
Wilderness Act, P.L. 88-577, 78 Stat. 890, 16 U.S.C. §§1131-1136
Wildfire Disaster Recovery Act, P.L. 101-286
Wildlife Suppression Assistance Act, P.L. 101-11, 42 U.S.C. §1856m, 1856

APPENDIX C: THREATENED AND ENDANGERED SPECIES

United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

DEC 2 0 2002

Mr. Matthew Safford
National Park Service (DSC-PSD)
Post Office Box 25287
Denver, Colorado 80225-0287

Dear Mr. Safford:

This responds to your information request of November 26, 2002 regarding federally listed endangered and threatened species, Species of Concern (SOC), and wetlands. A General Management Plan is being developed by the National Park Service for Harpers Ferry National Historic Park in Jefferson County, West Virginia.

The federally listed endangered Indiana bat, Myotis sodalis could occur in the area and could conceivably be adversely affected. The Indiana bat may use the area for foraging and roosting between April 1 and November 14. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species such as shagbark hickory, which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites.

There are 29 known hibernacula for the Indiana bat in the limestone region of eastern West Virginia in Preston, Tucker, Randolph, Pendleton, Pocahontas, Greenbrier, Monroe, and Mercer Counties. The population of the hibernacula in West Virginia range in size from one to 9,000 Indiana bats. Recent data indicate that the area within an approximate 5.0 mile radius of a hibernaculum is important foraging and roosting habitat for the Indiana bat in the fall swarming period, August 15 through November 14. A roosting colony was identified along the C and O Canal in Maryland, however, verification should be made the Chesapeake Bay Field Office of the U.S. Fish and Wildlife Service.

Species of Concern are those for which the U.S. Fish and Wildlife Service (Service) has information indicating that protection under the Endangered Species Act may be warranted, but for which it lacks sufficient information on status and threats to proceed with preparation of a proposed listing. On December 5, 1996 the Service announced their final decision to discontinue efforts to maintain a national list of these species. While SOC lack formal recognition as candidates for possible future listing under the Endangered Species Act, the Service and the West Virginia Division of Natural Resources encourage continued consideration of these species in environmental planning. In addition to the federally listed species, the following are SOC which may occur around or downstream of the site:

- Butternut, Juglans cinerea typically found in rich woods,
- Allegheny woodrat, Neotoma magister mainly found in and around cliffs, caves and rock outcrops,
- Henslow's Sparrow, Ammodramus henslowii usually found in early old fields,
- Cerulean warbler, Dendroica cerulea mostly found in mixed mesophytic and Appalachian oak forests,
- Migrant loggerhead shrike, Lanius ludovianus migrans mainly found in pastures and open field, adjacent to brushy areas and thickets,
- Appalachian Bewick's wren, Thyomanes bewikii altus normally found in open woodlands, brushy thickets, and around old farm buildings,
- Yellow lampmussel, Lampsilis cariosa typically found in small to medium rivers of the Potomac Basin,
- Grizzled skipper, Pyrgus wyandot found along shale ridges, and
- Bigger's amphipod, Stygobromus biggersi found in Ditmer Cave,

Our review of the National Wetlands Inventory 7½-minute topographic maps (Harpers Ferry and Charles Town) indicates wetlands occur in the area. However, definitive determinations of the presence of waters of the United States, including wetlands, and the need for permits, if any, are made by the U.S. Army Corps of Engineers. They may be contacted at: Pittsburgh District, Regulatory Branch, William S. Moorhead Federal Building, 1000 Liberty Avenue, Pittsburgh, Pennsylvania 18222-4188, telephone (412)395-7152.

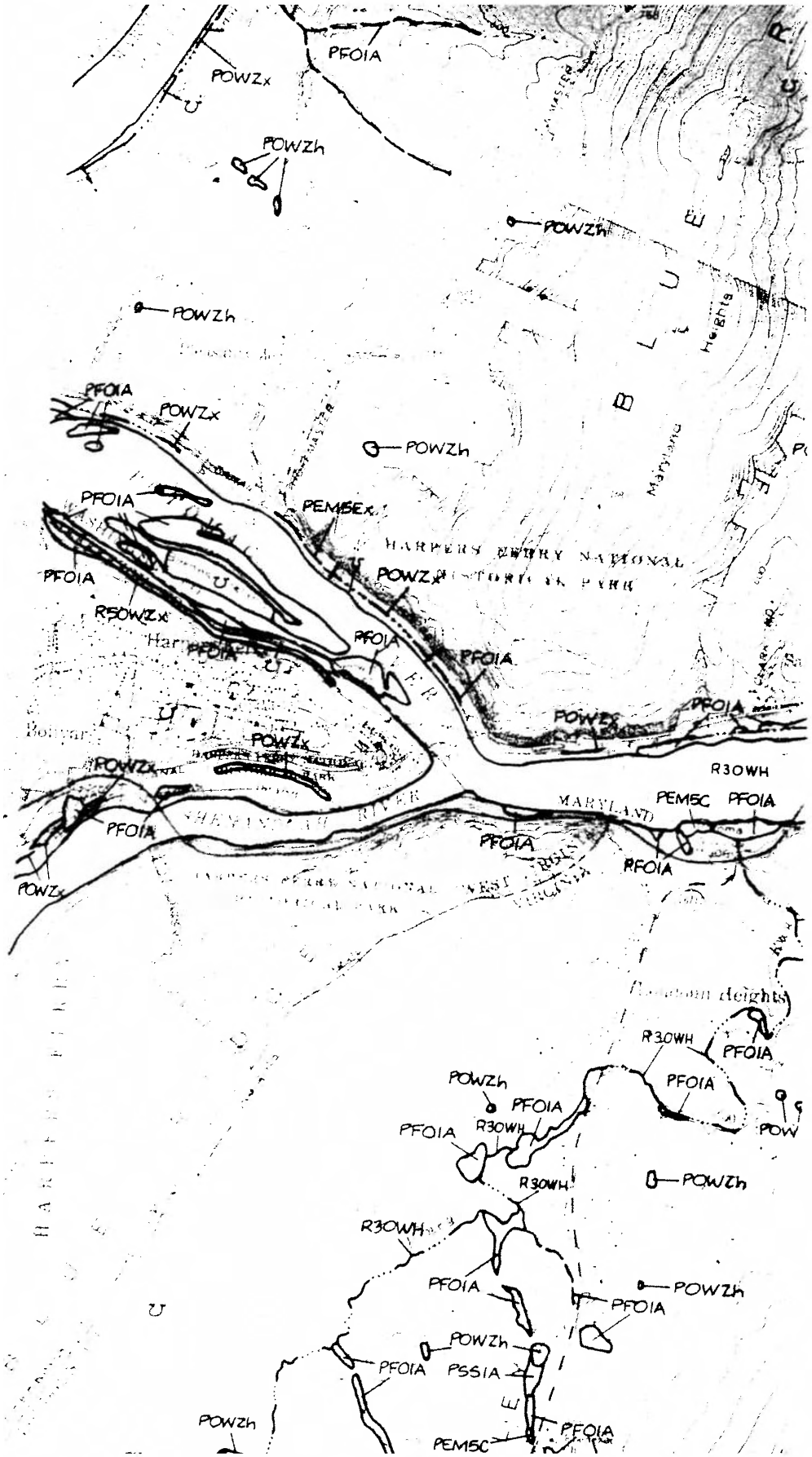
If you have any questions regarding this letter, please contact Jon Amberg, of my staff, or contact me directly at (304) 636-6586, or at the letterhead address.

Sincerely,

William A. Tolin

William A. Tolin
Acting Field Supervisor

Enclosures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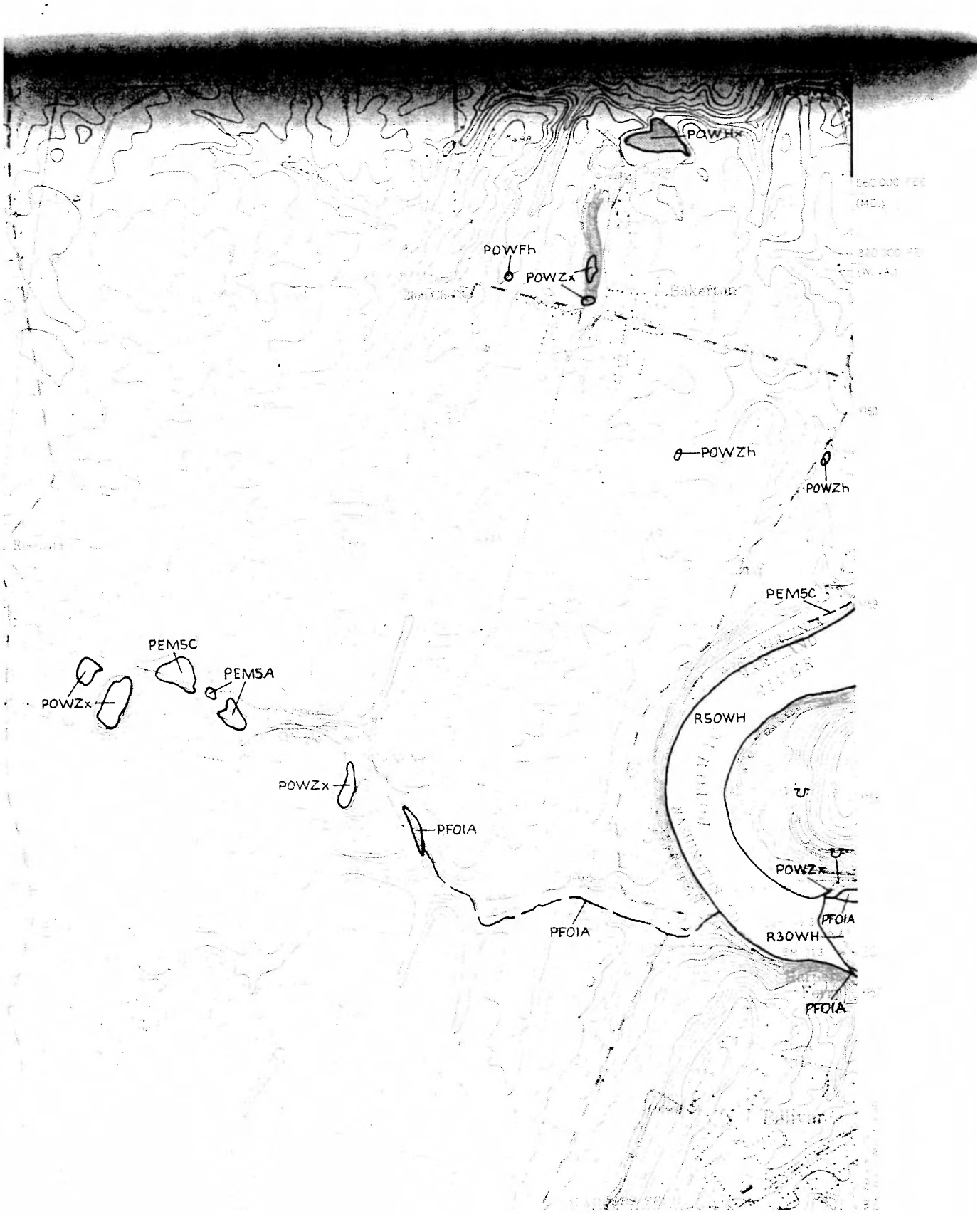
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FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN WEST VIRGINIA

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
BIRDS			
Eagle, bald	Haliaeetus leucocephalus	T*	Entire state Nest sites: (1) Mineral, (5) Hampshire, (2) Pendleton, (1) Grant, and (4) Hardy
MAMMALS			
Bat, Indiana	Myotis sodalis	E	Known hibernacula in Tucker, Pocahontas, Greenbrier, Randolph, Preston, Pendleton, Monroe and Mercer Counties. Critical habitat: Hellhole Cave, Pendleton County - Bats may occupy summer habitat throughout the entire state
Bat, Virginia big-eared	Corynorhinus (=Plecotus) townsendii virginianus	E	Primarily northeastern counties, especially Pendleton, Tucker and Grant Counties. Critical habitat: Hellhole Cave, Cave Mountain Cave, Hoffman School Cave, and Sinnit/Thorn Mountain Cave in Pendleton Co.; Cave Hollow/Arbogast Cave in Tucker Co.
Cougar, eastern	Felis concolor cougar	E	Entire state, may be extinct
Squirrel, West Virginia northern flying	Glaucomys sabrinus fuscus	E	Pocahontas, Tucker, Pendleton, Greenbrier, Webster, and Randolph Counties, within proclamation boundary of Monongahela National Forest
MOLLUSKS			
Snail, flat-spired three-toothed land	Triodopsis platysayoides	T	Monongalia and Preston Counties, mainly in Cooper's Rock State Forest area, both sides of Cheat River Gorge
Mussel, tubercled-blossom pearly	Epioblasma (=Dysnomia) torulosa torulosa	E	Kanawha River, Fayette Co., may be extinct
Mussel, pink mucket pearly	Lampsilis abrupta (=orbiculata)	E	Kanawha River, Fayette Co., Ohio River, Cabell, Mason and Wood Counties; Elk River, Kanawha Co.
Mussel, James spiny	Pleurobema (=Canthyria) collina	E	Monroe Co., South Fork of Potts Creek and Potts Creek
Mussel, fanshell	Cyprogenia stegaria (=irrorata)	E	Kanawha River, Fayette Co.; Ohio River, Wood Co.

COMMON NAME	SCIENTIFIC NAME	STATUS	DISTRIBUTION
Mussel, clubshell	Pleurobema clava	E	Elk River, Braxton, Kanawha, and Clay Counties; Hackers Creek, Lewis Co.; Meathouse Fork, Doddridge, Co.; South Fork Hughes River, Ritchie County
Mussel, northern riffleshell	Epioblasma torulosa rangiana	E	Elk River, Kanawha Co.
PLANTS			
Harperella	Ptilimnium nodosum	E	Morgan and Berkeley Counties
Shale barren rock cress	Arabis serotina	E	Greenbrier, Hardy, and Pendleton Counties
Running buffalo clover	Trifolium stoloniferum	E	Fayette, Webster, Tucker, Pocahontas, Barbour, Brooke and Randolph Counties
Virginia spiraea	Spiraea virginiana	T	Nicholas, Fayette, Mercer, Raleigh, Summers, and Greenbrier Counties
Northeastern bulrush	Scirpus ancistrochaetus	E	Berkeley and Hardy Counties
Small whorled pogonia	Isotria Medeoloides	T	Greenbrier County
AMPHIBIANS			
Cheat Mountain salamander	Plethodon nettingi	T	Pendleton, Pocahontas, Randolph, Grant and Tucker Counties

* Threatened
** Endangered

Revised April 12, 2002

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, VA 23061

May 16, 2003

Mr. Matthew Safford
National Park Service (DSC-PSD)
P.O. Box 25287
Denver, Colorado 80225-0287

Re: Project #2946

Greetings:

The U.S. Fish and Wildlife Service (Service) has received your request to review the attached project for potential impacts to Federally listed or proposed endangered and threatened species and designated critical habitat in Virginia pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Attached is a list of species with Federal status and species of concern that have been documented or may occur in the county where your project is located. This list was prepared by this office and is based on information obtained from previous surveys for rare and endangered species.

In order to ensure coordination with the State agencies, we consistently recommend that individuals contact the Virginia Department of Conservation and Recreation, Division of Natural Heritage **and** the Virginia Department of Game and Inland Fisheries, since each agency maintains a different database and has differing expertise and/or regulatory responsibility. You can contact these agencies at the following addresses:

Virginia Department of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230
(804) 367-1000

Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 2nd Floor
Richmond, VA 23219
(804) 786-7951

Mr. Matthew Safford Page 2

If either of these agencies determines that your project may impact a Federally listed, proposed, or candidate species OR Federally designated critical habitat, please contact this office and provide a copy of the response letter from each agency and the above referenced project number; otherwise, further contact with this office is not necessary.

If you have any questions or need further assistance, please contact Ms. Jolie Harrison at (804) 693-6694, extension 208.

Sincerely,

Karen L. Mayne

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

LOUDOUN COUNTY, VIRGINIA
Federally Listed, Proposed, and Candidate Species

SCIENTIFIC NAME	COMMON NAME	STATUS
Species of Concern		
INVERTEBRATES		
Elliptio lanceolata	Yellow lance	G3
Lasmigona subviridis	Green floater	G3
Speyeria idalia	Regal fritillary	G3
VASCULAR PLANTS		
Agalinis auriculata[1]	Earleaf foxglove	G3
Carex decomposita	Epiphytic sedge	G3
Carex polymorpha[1]	Variable sedge	G2G3
Hesperia attalus slossonae	Dotted Skipper	G3G4T3
Poa paludigena[1]	Bog bluegrass	G3
Vitis rupestris	Sand grape	G3

[1] This species has been documented in an adjacent county and may occur in this county.

November 23, 2002
Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

KEY

LE - federally listed endangered.

LT - federally listed threatened.

PE - federally proposed endangered.

PT - federally proposed threatened.

EX - believed to be extirpated in Virginia.

LE(S/A) - federally listed endangered due to similarity of appearance to a federally listed species.

LT(S/A) - federally listed threatened due to similarity of appearance to a federally listed species.

C - candidate species; the U.S. Fish and Wildlife Service has enough information to list the species as threatened or endangered, but this action is precluded by other listing activities.

SOC - species of concern; those species that have been identified as potentially imperiled or vulnerable throughout their range or a portion of their range. These species are not protected under the Endangered Species Act.

G - global rank; the species rarity throughout its total range.

G1 - extremely rare and critically imperiled with 5 or fewer occurrences or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.

G2 - very rare and imperiled with 6 to 20 occurrences or few remaining individuals; or because of some factor(s) making it vulnerable to extinction.

G3 - either very rare and local throughout its range or found locally (abundantly at some of its locations) in a restricted range; or vulnerable to extinction because of other factors. Usually fewer than 100 occurrences are documented.

G_T_ - signifies the rank of a subspecies or variety. For example, a G3T1 would apply to a subspecies of a species that is very rare and local throughout its range or found locally in a restricted range (G3) but the subspecies warrants a rank of T1, critically imperiled.

G_Q - The taxon has a questionable taxonomic assignment.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Received
JUN 19 2003
DSC-PSD

June 2, 2003

Mr. Matthew Safford
National Park Service (DSC-PSD)
P.O. Box 25287
Denver, CO 80225-0287

RE: Species List for Harpers Ferry National Historic Park, Washington County, MD

Dear Mr. Safford:

This responds to your letter, received May 9, 2003, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The federally threatened bald eagle *(Haliaeetus leucocephalus)* nests on an island within the Potomac River that is located just north of the Harpers Ferry National Historic Park boundary and east of U.S. Route 340. For further information regarding activity at this nest, Glenn Therres of the Maryland Wildlife and Heritage Division should be contacted at (410) 260-8572.

Except for occasional transient individuals, no other federally proposed or listed endangered or threatened species are known to exist within the area. Should additional information on the distribution of listed or proposed species become available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the basin's remaining wetlands, and the long term of increasing the quality and quantity of the basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands proposed, the U.S. Army Corps of Engineers,

Baltimore District should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Craig Koppie (410) 573-4534.

Sincerely,

Mary Ratnaswamy

Mary J. Ratnaswamy, Ph.D.
Program Supervisor, Threatened and Endangered Species

cc: Glenn Therres, Maryland Wildlife and Heritage Division, Annapolis, MD

APPENDIX D: GENERAL SPECIES LISTS, HARPERS FERRY NATIONAL HISTORICAL PARK

FISH

In an inventory conducted in 2003, fish were collected from three sites: Elks Run, Flowing Springs Run, and Piney Run. All available habitats were sampled at each site, and collecting continued until no new species were observed for 15 minutes.

The inventory group captured and identified 632 fishes representing 32 species from six families of freshwater fishes. All species had been previously known in the Potomac River drainage. This represents a reasonably high diversity of fishes given the limited amount of stream habitats within the park. High water levels in 2003 prevented effective sampling in a beaver impoundment on Flowing Springs Branch, and future sampling may result in the documentation of additional fish species in the park.

Anguilla rostrata
Campostoma anomalum
Clinostomus funduloides
Cyprinella spiloptera
Cyprinus carpio
Luxilus cornutus
Nocomis micropogon
Notemigonus crysoleucas
Notropis buccatus
Pimephales notatus
Rhinichthys atratulus
Rhinichthys cateractae
Semotilus corporalis
Catostomus commersoni
Hypentelium nigricans
Moxostoma erythrurum
Ameiurus natalis
Ameiurus nebulosus
Noturus insignis
Ambloplites rupestris
Lepomis auritus
Lepomis cyanellus
Lepomis gibbosus
Lepomis macrochirus
Lepomis megalotis
Micropterus dolomieu
Micropterus salmoides
Pomoxis annularis
Pomoxis nigromaculatus
Etheostoma blennioides
Etheostoma caeruleum
Etheostoma olmstedi

SOURCE: Raesly, Richard L., 2003. "Annual Report: Inventory and Biological Monitoring of Fishes in National Parks of the National Capital Region." Department of Biology, Frostburg State University, Frostburg, Maryland.

BIRDS

Double-crested Cormorant
Great Blue Heron
Great Egret
Green Heron
Canada Goose
Wood Duck
American Black Duck*
Mallard
Canvasback
Bufflehead
Common Merganser
Black Vulture
Turkey Vulture
Osprey
Bald Eagle
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Broad-winged Hawk

Red-tailed Hawk
Peregrine Falcon*
Wild Turkey
Northern Bobwhite*
Killdeer
Spotted Sandpiper
Laughing Gull
Ring-billed Gull
Herring Gull
Rock Dove
Mourning Dove
Yellow-billed Cuckoo
Chimney Swift
Ruby-throated Hummingbird
Belted Kingfisher
Red-bellied Woodpecker
Yellow-bellied Sapsucker
Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Pileated Woodpecker
Eastern Wood-Pewee
Acadian Flycatcher*
Eastern Phoebe
Great Crested Flycatcher
Eastern Kingbird
Purple Martin
Tree Swallow
Northern Rough-winged Swallow
Barn Swallow
Blue Jay
American Crow
Fish Crow
Common Raven
Black-capped Chickadee
Carolina Chickadee
Tufted Titmouse
Red-breasted Nuthatch
White-breasted Nuthatch
Brown Creeper
Carolina Wren
House Wren
Winter Wren
Golden-crowned Kinglet
Ruby-crowned Kinglet
Blue-gray Gnatcatcher
Eastern Bluebird
Hermit Thrush
Wood Thrush*
American Robin
Gray Catbird
Northern Mockingbird
Brown Thrasher
Cedar Waxwing
European Starling
White-eyed Vireo
Blue-headed Vireo
Yellow-throated Vireo
Warbling Vireo
Red-eyed Vireo
Northern Parula
Yellow Warbler
Black-throated Blue Warbler
Yellow-rumped Warbler
Black-throated Green Warbler
Blackburnian Warbler
Yellow-throated Warbler*
Prairie Warbler*
Black-and-white Warbler
American Redstart
Prothonotary Warbler*
Worm-eating Warbler*
Ovenbird
Louisiana Waterthrush*
Scarlet Tanager*
Northern Cardinal
Rose-breasted Grosbeak
Indigo Bunting
Eastern Towhee
Chipping Sparrow
Field Sparrow*
Savannah Sparrow
Grasshopper Sparrow*
Song Sparrow
White-throated Sparrow
Dark-eyed Junco
Red-winged Blackbird
Common Grackle
Brown-headed Cowbird
Orchard Oriole
Baltimore Oriole
Purple Finch
House Finch
American Goldfinch
House Sparrow

* Indicates a species of concern

SOURCE: National Park Service, 2003. "Avian Inventory at Six National Capital Region National Parks Final Report," by John A. Sinclair, Marcus Koenen, Sybil Hood, Mikaila Milton, and Christina Wright. National Capital Region Network, Washington, D.C.

REPTILES AND AMPHIBIANS

Northern Green Frog
Wood Frog
Broad-headed Skink
Northern Fence Lizard
Eastern Redbacked Salamander
Long-tailed Salamander
Northern Red Salamander
Northern Spring Salamander
Northern Two-lined Salamander
Red-spotted Newt
Seal Salamander
Spotted Salamander
Common Watersnake
Eastern Milksnake
Eastern Wormsnake
Northern Copperhead
Northern Ring-necked Snake
Northern Rough Greensnake
Eastern Box Turtle
Northern Red-bellied Cooter

SOURCE: National Park Service, 2003. "Annual Amphibian and Reptile Inventory Report for Fiscal Year 2003," by Thomas K. Pauley and Mark B. Watson. National Capital Region, Washington, D.C.

MAMMALS

Northern short-tailed shrew
Least shrew
Smoky shrew
Southeastern shrew
Southern flying squirrel
Red-backed vole
Pine vole
House mouse
White-footed mouse
Eastern gray squirrel
Eastern chipmunk
Meadow jumping mouse
Eastern woodrat
Raccoon
White-tailed deer

SOURCE: National Zoological Park, 2003. "Small Mammal Survey of National Capital Region Parks," by William J. McShea and Carrie O'Brien. Conservation and Research Center, Front Royal, Virginia.

APPENDIX E: DEMOGRAPHIC TRENDS FOR BOLIVAR, WEST VIRGINIA, AND HARPERS FERRY, WEST VIRGINIA

POPULATION CHANGES

The population of Bolivar increased by about 50% during the 1980s and then slowed throughout the next 10 years resulting in only a 3% increase between 1990 and 2000 (table E-1). Meanwhile, the town of Harpers Ferry's population declined by almost 15% during the 1980s and remained essentially unchanged throughout the next decade.

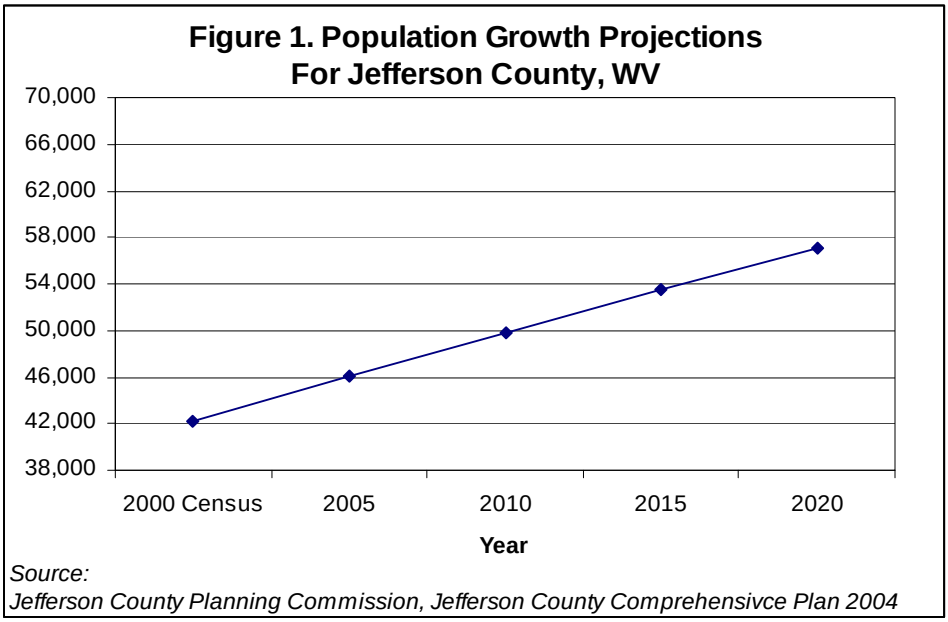
In the 1990s, Jefferson County registered a 17% population increase. The increase in population in the county was much more substantial than the population changes in Bolivar (3.2%) and Harpers Ferry (-0.3%).

Table E-1. Population Trends

Population	1960	1970	1980	1990	2000	Percent Change 1990-2000
West Virginia	1,860,421	1,744,237	1,950,183	1,793,477	1,808,344	0.83%
Jefferson County	18,665	21,280	30,302	35,962	42,190	17.30%
Bolivar	754	943	672	1,013	1,045	3.20%
Harpers Ferry	No Data	No Data	361	308	307	-0.30%

SOURCE: U.S. Census Bureau
SOURCE: U.S. Department of Housing & Urban Development, State of the Cities Data System.

Based upon the ability to increase additional housing units and density development, the future population change for the two gateway communities is estimated to remain stable or grow at a very slow rate. This trend differs when looking at Jefferson County as a whole. The Jefferson County Planning Commission has estimated the county's population growth through 2020 (figure 1) at an average rate of 2% per year, compounded. It is anticipated that most of this population growth will be outside the incorporated municipalities which includes developable lands near Bolivar and Harpers Ferry.



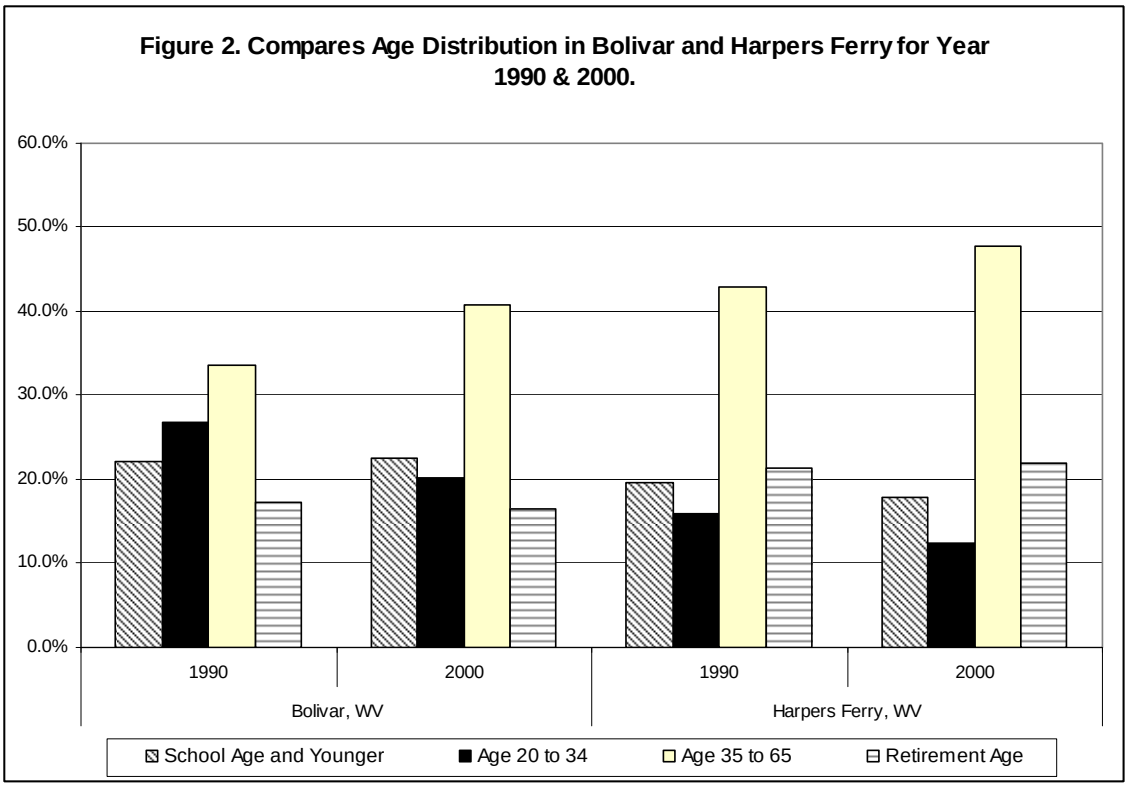
AGE

Throughout the 1990s, the population of the gateway communities grew slightly older, ending the decade with a median age of 39 years for residents of Bolivar and 47 years for Harpers Ferry. The 2000 census reports that 57% of Bolivar's population and 70% of Harpers Ferry are older than 35 years of age. The age category of 35- to 54, year-olds in Bolivar had the largest population increase of 7.8% during the 1990s. A similar trend was found in Harpers Ferry but in the slightly older age group of 45- to 59, year-olds with a 5.5% increase.

Figure 2 compares the age distribution in Bolivar and Harpers Ferry for 1990 and 2000. The largest decline of residents in both communities during the 1990s was in the age category of 20- to 34 year-olds with a 4.6% decrease in Bolivar and a 3.5% decline in Harpers Ferry.

At the end of the 1990s, the gateway communities each had a small increase in the total number of households that resulted in 479 total households for Bolivar and 153 total households in Harpers Ferry. Only 23% of Bolivar total households and 18% of Harpers Ferry had school-age or younger children. The percentage of residents that are in the age category of 19 years and younger did not vary throughout the 1990s.

The population that are of retirement age also remained relatively stable throughout the 1990s. The most recent census showed that the retirement population of Bolivar decreased by 0.7% and Harpers Ferry increased by 0.5%.



ETHNIC COMPOSITION

The 2000 census reports that Caucasians make up approximately 90% of the population in the gateway communities. The African-American population, currently less than 10% of the total population, saw a decline throughout the 1990s in both Bolivar and Harpers Ferry. Table E-2 compares the ethnic composition for Bolivar and Harpers Ferry with Jefferson County and West Virginia.

Table E-2. Ethnic Composition, Percent of Population - 1990 and 2000

	Bolivar, WV		Harpers Ferry, WV		Jefferson County, WV		West Virginia	
	1990	**2000**	**1990**	**2000**	**1990**	**2000**	**1990**	**2000**
Total Population	1,013	1,045	308	307	35,926	42,190	1,793,477	1,808,344
Caucasian	92.3%	91.1%	85.4%	89.9%	91.7%	91.0%	96.2%	95.1%
African-American	7.5%	5.4%	13.6%	9.1%	7.4%	6.1%	3.2%	3.2%
American Indian, Eskimo, or Aleut	0.0%	0.7%	0.3%	0.3%	0.2%	0.3%	0.1%	0.2%
Asian or Pacific Islander	0.1%	0.6%	0.7%	0.0%	0.4%	0.6%	0.4%	0.5%
Other race	0.1%	2.2%	0.0%	0.7%	0.3%	2.0%	0.1%	1.0%
Hispanic origin (of any race)	1.2%	1.6%	0.6%	0.7%	1.2%	1.7%	0.5%	0.7%

SOURCE: U.S. Census Bureau

EDUCATION

The educational attainment variable is a key demographic that recognizes changes within a community's population (table E-3). In Bolivar, the educational attainment reported by the 2000 census reflects the same trends reported for Jefferson County, West Virginia. Of Bolivar's population age 25 and older the percentage of residents that did not graduate from high school is 23%. This represents an 11% decrease from the reported 1990 35% of residents who did not graduate from high school. The percentage of residents who obtained college or advance degrees was 22%.

In Harpers Ferry, the percent of persons age 25 and older who obtained a college or advance degree reached 60% in 2000. This is a 20% increase when compared to the 1990 census. Of the same 25 years and older population, only 9% did not graduate from high school.

Table E-3. Percent of Persons Aged 25 or More by Highest Educational Attainment

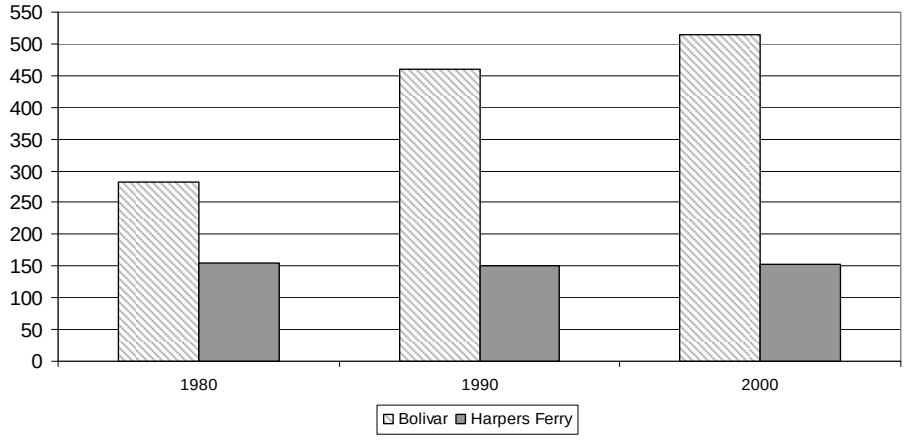
	Bolivar		Harpers Ferry		Jefferson County	West Virginia
	1990	2000	1990	2000	2000	2000
Did Not Graduate High School	34.6%	23.4%	23.1%	8.9%	21.0%	24.8%
High School Graduate	34.9%	35.9%	21.4%	8.1%	34.7%	39.4%
Some College or Associated Degree	14.6%	18.6%	16.0%	22.9%	22.8%	20.9%
College Graduate or Advanced Degree	16.0%	22.1%	39.5%	60.2%	21.5%	14.9%

DATA SOURCE: U.S. Department of Housing & Urban Development, State of the Cities Data System and U.S. Census Bureau

HOUSING

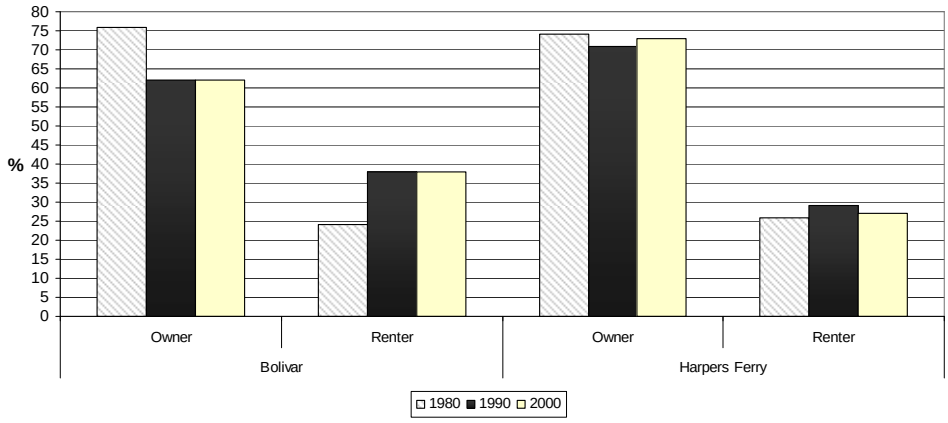
Along with the 1980s growth in population, the town of Bolivar had a 63% increase in the number of housing units of all types (e.g., vacation, year-round, income property). The increase of housing continued through the 1990s but at a much slower growth rate of 12% for a total of 515 units in year 2000, (figure 3).

Figure 3. Total Number of Housing Units in Bolivar and Harpers Ferry, WV
Source: U.S. Department of Housing & Urban Development, State of the Cities Data System.



During Bolivar's housing boom of the 1980s, there was a change in the percentage of housing units that were occupied by owners from 76% in 1980 to 62% in 1990, a pattern that remains constant in 2000 (figure 4). Conversely, the number of renter occupied housing units in Bolivar averages 38% of the housing units.

Figure 4. Percent of Housing Units That Are Owner Occupied or Renter Occupied.
Source: U.S. Department of Housing & Urban Development, State of the Cities Data System.



For the town of Harpers Ferry, the number of housing units has remained constant for more than 20 years. This suggests that the town is close to build out where the opportunity to increase additional housing is limited.

The pattern of Harpers Ferry's "owner occupied" (72%) versus "renter occupied" (28%) housing has also remained fairly constant since 1980.

INCOME

Harpers Ferry's 1999 median household income ($52,344) is approximately 18% higher than the town of Bolivar ($42,375) and Jefferson County ($43,024) and is 42% higher than the median for

West Virginia (table E-4). Since 1979, the trend of household income in Harpers Ferry has been an increase in the middle income bracket by 7%, the high income bracket by almost 3%, and a 10% decline in the low income group. Based upon the 2000 census, 30 % of Harpers Ferry households were considered high income, 59% middle income and 11% fell in the low income category (table E-5).

Table E-4. Median Household Income in 1999 Dollars

	1979	1989	1999
Bolivar, WV	$39,800	$34,676	$42,375
Harpers Ferry, WV	$40,158	$42,490	$52,344
Jefferson County, WV			$43,024
West Virginia			$30,108

SOURCE: U.S. Census Bureau. U.S. Department of Housing and Urban Development (State of the Cities Data Systems)

Table E-5. Percent of Households in National Income Brackets

	Low Income			Middle Income			High Income		
	1979	1989	1999	1979	1989	1999	1979	1989	1999
Bolivar, WV	22.6%	23.8%	19.5%	64.4%	65.6%	66.1%	13.0%	10.5%	14.3%
Harpers Ferry, WV	21.1%	19.9%	10.8%	51.0%	53.3%	58.7%	27.9%	26.8%	30.5%

SOURCE: U.S. Census Bureau
SOURCE: SOCDS (State of the Cities Data Systems) U.S. Department of Housing and Urban Development

In Bolivar the trend to higher income brackets is much more subtle. The 2000 census reported that 14% of Bolivar's household incomes were in the high income category. A 66% majority of Bolivar's households had incomes in the middle income range, and almost 20% fell in the low income category.

Since 1979 both gateway communities have seen a decline in the number of households within the low income category. Although there continues to be a trend with household incomes rising, there remain many residents in the gateway communities that are living at poverty level. Table E-6 compares the poverty rate for 1989 and 1999 census. The poverty rate for the Bolivar remains essentially unchanged at 12.5% while Harpers Ferry's has declined to 2.2%.

Table E-6. Percent Poverty Rate for 1989 and 1999

	1989	1999
Bolivar	12.6%	12.5%
Harpers Ferry	6.4%	2.2%
Jefferson County	9.0%	10.3%
West Virginia	17.2%	17.9%

DATA SOURCE: U.S. Census Bureau and U.S. Department of Housing & Urban Development, State of the Cities Data System.

EMPLOYMENT

The labor force participation for both Bolivar and Harpers Ferry are estimated to be 68% of the population. Based upon this rate, the 2000 census reported an unemployment rate of 3.9% for Bolivar and 1.2% for Harpers Ferry. Both are substantially below the national average.

In 1998 the U.S. Census Bureau began to report employment data classified by industry according to the North American Industry Classification System (NAICS). For this evaluation, the 2000 census data is used to understand the economic structure for the gateway communities.

The ***Educational, Health and Social Science*** industry employs the largest share of Bolivar's (19%) and Harpers Ferry (26%) workforce (table E-7). This industry is often supported by local and regional finances that are not directly dependent upon tourism.

The ***Retail*** industry and the ***Arts, Entertainment, Recreation, Accommodation and Food Service*** industry are also primary employers for the workforce within the gateway communities. In 2000, the ***Retail*** industry employed 15% of Bolivar and 8% of Harpers Ferry's workforce. Conversely, the ***Arts, Entertainment, Recreation, Accommodation and Food Service*** industry employed 20% of Harpers Ferry workforce and only 8% of Bolivar's. Both industries are characterized by many small businesses with payroll dependent upon a high level tourism and local employment.

Table E-7. Percent Employed Residents by Industry 2000 (NAICS Classification)

	Bolivar	Harpers Ferry	Jefferson County	West Virginia
Agriculture, forestry, fishing, and hunting	0.1	0.1	2.6	4.1
Arts, entertainment, recreation, accommodation and food service	8.1	20.2	10.3	8
Construction	10.6	8.3	11	7
Educational, health, and social services	19.4	26.2	17.3	23
Finance, insurance, real estate, and rental and leasing	5.1	2.4	4.9	4.6
Information	2.6	10.1	2.9	2.2
Manufacturing	8.5	2.4	10.7	11.9
Other services (except public administration)	4.4	1.8	4.6	5
Professional, scientific, management, administrative	10.2	8.9	9.4	6.6
Public Administration	8.3	8.3	8.5	5.7
Retail trade	15.2	8.9	12.3	13.1
Transportation and warehousing, and utilities	4.9	2.4	3.8	6
Wholesale trade	2.6	0	1.7	2.8

DATA SOURCE: U.S. Department of Housing & Urban Development, State of the Cities Data System and U.S. Census Bureau

In both Bolivar and Harpers Ferry there are three industries that each employ 8% to 10% of the workforce. These industries are ***Construction***; ***Public Administration***; and ***Professional,***

Scientific, Management, and Administrative. Each of these industries are usually higher wage, higher skill professions that are indirectly dependent upon a tourism economy.

There are two other key industries are that support employment for gateway communities that are worth noting. The ***Information*** industry provided employment for 10% of Harpers Ferry's available workforce and 3% of Bolivar's. The other is the ***Manufacturing*** industry that in 2000 employed 8.5% of Bolivar's workforce and 2.4% of Harpers Ferry's.

In 2004 the West Virginia Bureau of Employment Programs — Employment Statistics posted the top ten ranking for the largest employers in Jefferson County:

Table E-8. Top Ten Ranking for Employers in Jefferson County

Rank	Employer's Name
1	PNGI Charles Town Gaming
2	Jefferson County Board of Education
3	Shepherd College
4	AB&C Group, Inc
5	Jefferson Memorial Hospital
6	Wal-Mart Stores, Inc
7	National Park Service
8	Royal Vendors, Inc
9	Augmentation, Inc
10	Genesis Eldercare Network Services

Economic Influence of NPS Visitors

This section estimates the economic influence that visitors to Harpers Ferry National Historical Park might have on the local economy. The following analysis uses an economic impact framework to quantify the direct and indirect expenditures by park visitors using data from the year 2001. This economic impact analysis traces the flow of spending by visitors within the local economy to estimate the national historical park's contribution to sales, income, and jobs in the area.

To measure the effects of visitor spending on the local economy the National Park Service developed an economic impact model referred to as the Money Generation Model 2. This model estimates the economic impacts by measuring sales (values of goods and services), tax, and employment benefits. The model's logic is that Harpers Ferry National Historical Park is part of the local economy. When visitors from outside the local area spend money within the local area for meals, lodging, and other goods and services, this expenditure provides an economic stimulus to the local economy. The economic estimates for the national historical park are based on the following:

1. Official NPS recreation visit estimates for 2001 were 330,000 recreation visits. The 330,000 recreation visits were further converted to 0.16 million party days, as party day is the spending unit in our analysis (table E-9).
2. Estimates of the percentage of visitors that are local, on day trips, or staying overnight in the area in campgrounds or motels. In this analysis the local day visitors contributed 20% of overall recreation visits. Day visitors from other regions consisted of 55% of the

recreation visits, and visitors staying at accommodations and campsites were 20%, and 5% respectively.

3. Park visitor spending profiles for distinct visitor segments derived from park visitor surveys at selected parks, and
4. Regional economic multipliers based on input-output models for local regions around NPS units.

Table E-9. Visitation and Spending By Visitor Segments

	Local Day Visitors	Nonlocal Day Visitors	Hotel Visitors	Camping Visitors	Total
Recreation Visits	65,032	178,836	65,032	16,258	325,158
Segment Shares in Recreation Visits	20%	55%	20%	5%	100%
Party Days	26,013	71,535	52,025	13,028	162,601
Average Spending Per Party Day	$35	$53	$163	$84	$88
Total Spending	$900,000	$3,780,000	$8,440,000	$1,090,000	$14,210,000

SOURCE: 2001 MGM2 Analysis, National Park Service, Economic Impacts of Visitor Spending

In this analysis, visitor spending only covers economic effects on the local area around the national historical park. The economic modeling does not include impacts of the park operations/employees, construction activity, or visitor spending outside the local area.

On average, visitors spend $88 dollars per party per day in the local communities. Total visitor spending was estimated to be $14,210,000 dollars for the study year 2001. The $14 million dollar estimate spent by visitors to Harpers Ferry National Historical Park had a direct economic impact of $11,750,000 dollars in direct sales and $4,230,000 dollars in personal income (wages and salaries) — $6,360,000 dollars in value added and supported an estimated 292 jobs.

The analysis also estimated that among all the direct sales, $3,990,000 dollars was from lodging sales, $3,290,000 from food and drinking places, $1,530,000 dollars from admission fee, and $1,690,000 million from retail trade. As visitor spending circulates through the local economy, secondary effects created additional $1,940,000 dollars of personal income and an estimated 76 jobs (table E-10).

Table E-10. Economic Impacts of Visitor Spending By Sectors

	Sales	Personal Incomes	Jobs	Value Added
Direct Effects				
B&B, hotel, other accommodations	$3,990,000	$1,300,000	87	$1,980,000
Campsites	$260,000	$80,000	6	$130,000
Restaurants & Bars	$3,290,000	$1,120,000	95	$1,560,000
Retail	$1,690,000	$860,000	47	$1,350,000
Admissions & Fees	$1,530,000	$530,000	46	$870,000
Others	$990,000	$330,000	14	$480,000
Total	$11,750,000	$4,220,000	295	$6,370,000
Secondary Effects	$5,340,000	$1,940,000	76	$3,350,000
Total Effects	$17,090,000	$6,160,000	371	$9,720,000

SOURCE: 2001 MGM2 Analysis, National Park Service, Economic Impacts of Visitor Spending

In summary, visitors to Harpers Ferry National Historical Park spent $14,210,000 dollars in 2001, which supported an estimated total of $17,090,000 in sales, $6,170,000 million in personal income, 367 jobs, and $9,700,000 in value added.

APPENDIX F: SECTION 106 CONSULTATION

United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:

D18(HAFE)

JAN - 6 2004

Mr. John Fowler
Old Post Office Building
1100 Pennsylvania Avenue, NW, Suite 809
Washington, DC 20004

Re: Commencement of a New General Management Plan, Harpers Ferry National Historical Park

Dear Mr. Fowler:

The National Park Service (NPS) has begun to prepare a general management plan (GMP) and accompanying environmental impact statement (EIS) for Harpers Ferry National Historical Park located in Jefferson Co. West Virginia, Loudoun Co. Virginia and Washington Co Maryland. The GMP will provide National Park Service managers a comprehensive planning framework for managing the park over the next fifteen to twenty years. Consistent with the park's purpose, significance, and legislative mandates, the plan will identify strategies for achieving desired resource conditions, visitor experiences, and the appropriate types and locations of potential future development. The combined GMP/EIS will identify management issues and concerns, present a reasonable range of management alternatives for addressing these issues, and will analyze the environmental impacts of each alternative on cultural and natural resources and other impact topics. The National Park Service requests your involvement. We wish to consult with you in accord with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and with the National Environmental Policy Act of 1969 (NEPA).

We invite you to meet with us at your convenience and at a time and place of your choosing to discuss these planning issues if you should wish to. If you would like to arrange a meeting, please feel free to call me at (304) 535-6244 or write to me at the address above. You may also email me at Donald_Campbell@nps.gov. I welcome your comments.

We will keep you informed of public meetings, to which you are invited, as the schedule is developed over the next several months and of other events and benchmarks as planning progresses over the next few years. At the appropriate time, we shall invite you to review and comment upon the draft plan.

Thank you in advance for your consideration. If you have any questions or require additional information, please contact me as mentioned above.

Sincerely,

Donald W. Campbell
Superintendent

Cc: Patrick Gregerson, National Capitol Region, National Park Service
Craig Cellar, Denver Service Center, National Park Service

United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:

D18(HAFE)

JAN - 6 2004

Mr. J. Rodney Little, SHPO
Maryland Historical Trust
100 Community Place, Third Floor
Crownsville, MD 21032-2023

Re: Commencement of a New General Management Plan, Harpers Ferry National Historical Park

Dear Mr. Little:

The National Park Service (NPS) has begun to prepare a general management plan (GMP) and accompanying environmental impact statement (EIS) for Harpers Ferry National Historical Park. The GMP will provide National Park Service managers a comprehensive planning framework for managing the park over the next fifteen to twenty years. Consistent with the park's purpose, significance, and legislative mandates, the plan will identify strategies for achieving desired resource conditions, visitor experiences, and the appropriate types and locations of potential future development. The combined GMP/EIS will identify management issues and concerns, present a reasonable range of management alternatives for addressing these issues, and will analyze the environmental impacts of each alternative on cultural and natural resources and other impact topics. Because portions of the Park lie within the state of Maryland, the National Park Service requests your involvement. We wish to consult with you in accord with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and with the National Environmental Policy Act of 1969 (NEPA).

I invite you to meet with us at your convenience to discuss these planning issues if you should wish to. If you would like to arrange a meeting, please feel free to call me at (304) 535-6244 or write to me at the address above. You may also email me at Donald_Campbell@nps.gov. I welcome your comments.

We will keep you informed of public meetings, to which you are invited, as the schedule is developed over the next several months and of other events and benchmarks as planning progresses over the next few years. At the appropriate time, we shall invite you to review and comment upon the draft plan.

Thank you in advance for your consideration. If you have any questions or require additional information, please contact me as mentioned above.

Sincerely,

Donald W. Campbell
Superintendent

Cc: John M. Fowler, Executive Director, Advisory Council on Historic Preservation, Eastern Office of Project
Patrick Gregerson, National Capitol Region, National Park Service
Craig Cellar, Denver Service Center, National Park Service

Received DSC-P
FEB 26 2004

D·H·C·D
MARYLAND DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT

Robert L. Ehrlich, Jr.
Governor
Michael S. Steele
Lt. Governor
Victor L. Hoskins
Secretary
Shawn S. Karimian
Deputy Secretary

February 19, 2004

Mr. Donald W. Campbell
Superintendent
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

Re: Commencement of New General Management Plan
Harpers Ferry National Historical Park

Dear Superintendent Campbell:

Thank you for your recent letter, dated 6 January 2004 and received by the Maryland Historical Trust (Trust) on 9 January 2004, notifying the Trust of the National Park Service's plans to prepare a new General Management Plan (GMP) and associated Environmental Impact Statement (EIS) for Harpers Ferry National Historical Park.

The Trust appreciates advance notice of this initiative and your invitation to be involved in the planning process. Once NPS has developed preliminary concepts for the GMP, we would welcome the opportunity to visit the Park and discuss those plans with NPS, if warranted, as they relate to potential impacts on historic properties in Maryland. We look forward to further consultation with NPS as planning proceeds to complete the historic preservation review of the GMP, in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

If you have questions or require further assistance, please contact me at 410-514-7631 or cole@dhcd.state.md.us. Thank you for providing us this opportunity to comment.

Sincerely,

Elizabeth J. Cole
Administrator, Project Review and Compliance

EJC/200400067

DIVISION OF HISTORICAL AND CULTURAL PROGRAMS 100 COMMUNITY PLACE CROWNSVILLE, MARYLAND 21032 PHONE: 410-514-7600
FAX: 410-987-4071 TOLL FREE: 1-800-756-0119 TTY/RELAY: 711 OR 1-800-735-2258 WWW.DHCD.STATE.MD.US

EQUAL HOUSING OPPORTUNITY

United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:

D18(HAFE)

JAN - 6 2004

Kathleen Kilpatrick, SHPO
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Re: Commencement of a New General Management Plan, Harpers Ferry National Historical Park

Dear Ms. Kilpatrick:

The National Park Service (NPS) has begun to prepare a general management plan (GMP) and accompanying environmental impact statement (EIS) for Harpers Ferry National Historical Park. The GMP will provide National Park Service managers a comprehensive planning framework for managing the park over the next fifteen to twenty years. Consistent with the park's purpose, significance, and legislative mandates, the plan will identify strategies for achieving desired resource conditions, visitor experiences, and the appropriate types and locations of potential future development. The combined GMP/EIS will identify management issues and concerns, present a reasonable range of management alternatives for addressing these issues, and will analyze the environmental impacts of each alternative on cultural and natural resources and other impact topics. Because portions of the Park lie within the state of Virginia, the National Park Service requests your involvement. We wish to consult with you in accord with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and with the National Environmental Policy Act of 1969 (NEPA).

I invite you to meet with us at your convenience to discuss these planning issues if you should wish to. If you would like to arrange a meeting, please feel free to call me at (304) 535-6244 or write to me at the address above. You may also email me at Donald_Campbell@nps.gov. I welcome your comments.

We will keep you informed of public meetings, to which you are invited, as the schedule is developed over the next several months and of other events and benchmarks as planning progresses over the next few years. At the appropriate time, we shall invite you to review and comment upon the draft plan.

Thank you in advance for your consideration. If you have any questions or require additional information, please contact me as mentioned above.

Sincerely,

Donald W. Campbell
Superintendent

Cc: John M. Fowler, Executive Director, Advisory Council on Historic Preservation, Eastern Office of Project
Patrick Gregerson, National Capitol Region, National Park Service
Craig Cellar, Denver Service Center, National Park Service

COMMONWEALTH of VIRGINIA

Department of Historic Resources

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.state.va.us

January 30, 2004

Mr. Donald W. Campbell
Harpers Ferry National Historical Park
PO Box 65
Harpers Ferry, WV 25425

Re: New General Management Plan

Dear Mr. Campbell:

Thank you for contacting the Virginia Department of Historic Resources regarding your proposal to develop a new General Management Plan for Harpers Ferry National Historic Park. We look forward to meeting with you to discuss your plans as they pertain to those portions of the park that fall within the state of Virginia, and appreciate your invitation to become involved in this important process.

If you have any questions about the Section 106 review process or our comments, please call me at (804) 367-2323, Ext. 140.

Sincerely,

Joanna Wilson, Archaeologist
Office of Review and Compliance

Administrative Services
10 Courthouse Avenue
Petersburg, VA 23803
Tel: (804) 863-1624
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Ave.
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Portsmouth Region Office
612 Court Street, 3rd Floor
Portsmouth, VA 23704
Tel: (757) 396-6707
Fax: (757) 396-6712

Roanoke Region Office
1030 Penmar Ave., SE
Roanoke, VA 24013
Tel: (540) 857-7585
Fax: (540) 857-7588

Winchester Region Office
107 N. Kent Street, Suite 203
Winchester, VA 22601
Tel: (540) 722-3427
Fax: (540) 722-7535

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street, Suite 326
Richmond, Virginia 23219-2010
Phone: (804) 786-2556 Fax: (804) 371-7899

December 16, 2004

Mr. Craig Cellar, PD
National Park Service
Denver Service Center
Post Office Box 25287
Denver, Colorado 80225-9901

Re: Harpers Ferry National Historical Park – General Management Plan/Environmental Impact Statement

Dear Mr. Cellar:

The Department of Conservation and Recreation's (DCR's) involvement in General Management Plans for National Parks within the Commonwealth is in part to provide technical assistance and recreational survey information and to help assure, as much as possible, seamless provision of services to the public and protection of resources. In response to the General Management Plan Newsletter #2, we have the following comments.

The Newsletter proposes three alternatives. For Alternative 1, No Action, our only comment is that if the National Park Service (NPS) can meet their goals and vision for the park, this may be the appropriate alternative. However, our goal is to have a seamless and unified process with the National Park Service to provide Virginia's citizens and visitors a full range of recreational opportunities. This being said, we offer the following general comments based on the *Virginia Outdoors Plan,* and our previous comments, for Alternatives 2 and 3. Both alternatives should consider addressing the following:

- Including a stronger component for protecting viewsheds on non-NPS lands through protective easements, zoning, etc., especially with regard to protection from cell towers or other noticeably non-19th century structures.
- With the proposal to interpret the area to the 19th century, could there not be a way to redevelop the 18th century on the Nash Farm?
- Neither alternative includes much about partnerships with governments and non-government organizations. The main partnerships described seem to be with local businesses.

Mr. Craig Cellar, PD
December 16, 2004
Page Two

- There needs to be more discussion about the provision of visitor services outside the park. Even though this is a management plan for the park, NPS should be encouraging development of some types of services in the locality (camping, food service, etc.)

Looking at the specific alternatives, we offer the following additional comments.

Alternative 2

- This option keeps the park in the good old NPS mode that we all know and love. For all the talk about government becoming more business-like, the public really does like the way national parks have been run for the past century.
- There is no discussion about the current level of visitor support services, such as food service and retail operations. With the well-developed business district adjacent to the park, there needs to be an evaluation on whether the current situation serves visitors well.

Alternative 3

- This option seems to rely on the development of a large number of partnerships and business relationships to take over much of the NPS responsibilities for development and operations. Is this really possible or desirable? This would mean that NPS would need a staff devoted to contract management (partnership management) in order to assure quality control and development at appropriate levels. Would they be better served by utilizing a single contractor (Delaware North, Amfac, etc.) rather than numerous local business and organizational partners?
- Why would NPS seek an independent institute to run the interpretive/education center at Nash Farm? Historically, this is the National Park Service's forte.

We hope that this has been helpful and look forward to being involved with the rest of your general management planning process. If we can provide project appropriate technical assistance in helping to protect natural, recreational, cultural and historic resources for current and future generations, or if we can answer any questions, please do not hesitate to call us.

Thank you so much for the opportunity to be involved in this planning endeavor.

Sincerely,

John Davy, Division Director
Planning and Recreation Resources

cc: Dan Campbell, Superintendent, Harpers Ferry National Historical Park
Robert S. Munson, Environmental Program Manager
Lynn M. Crump, Environmental Program Planner

United States Department of the Interior

NATIONAL PARK SERVICE
Harpers Ferry National Historical Park
P.O. Box 65
Harpers Ferry, West Virginia 25425

IN REPLY REFER TO:

D18(HAFE)

JAN - 6 2004

Ms. Nancy Herholdt, SHPO
West Virginia Division of Culture & History
Historic Preservation Office
1900 Kanawha Boulevard East
Charleston, WV 25305-0300

Re: Commencement of a New General Management Plan, Harpers Ferry National Historical Park

Dear Ms. Herholdt:

The National Park Service (NPS) has begun to prepare a general management plan (GMP) and accompanying environmental impact statement (EIS) for Harpers Ferry National Historical Park. The GMP will provide National Park Service managers a comprehensive planning framework for managing the park over the next fifteen to twenty years. Consistent with the park's purpose, significance, and legislative mandates, the plan will identify strategies for achieving desired resource conditions, visitor experiences, and the appropriate types and locations of potential future development. The combined GMP/EIS will identify management issues and concerns, present a reasonable range of management alternatives for addressing these issues, and will analyze the environmental impacts of each alternative on cultural and natural resources and other impact topics. The National Park Service requests your involvement. We wish to consult with you in accord with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and with the National Environmental Policy Act of 1969 (NEPA).

We invite you to meet with us at your convenience to discuss these planning issues if you should wish to. If you would like to arrange a meeting, please feel free to call me at (304) 535-6244 or write to me at the address above. You may also email me at Donald_Campbell@nps.gov. I welcome your comments.

We will keep you informed of public meetings, to which you are invited, as the schedule is developed over the next several months and of other events and benchmarks as planning progresses over the next few years. At the appropriate time, we shall invite you to review and comment upon the draft plan.

Thank you in advance for your consideration. If you have any questions or require additional information, please contact me as mentioned above.

Sincerely,

Donald W. Campbell
Park Superintendent

Cc: John M. Fowler, Executive Director, Advisory Council on Historic Preservation, Eastern Office of Project
Patrick Gregerson, National Capitol Region, National Park Service
Craig Cellar, Denver Service Center, National Park Service

WEST VIRGINIA
DIVISION OF
CULTURE & HISTORY

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Charleston, WV
25305-0300

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www.wvculture.org
EEO/AA Employer

December 22, 2004

Mr. Donald W. Campbell
US DOI
Harpers Ferry
PO Box 65
Harpers Ferry, WV 25425

RE: New General Management Plan
FR#: 05-137-JF

Dear Mr. Campbell:

We have reviewed the above mentioned notice. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Thank you for informing us of your efforts to begin work on a new general management plan for Harpers Ferry National Historical Park. We would appreciate an opportunity to review your plans as they pertain to protection of cultural resources, and look forward to working with your organization as planning progresses.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please call me or Jennifer Murdock, Structural Historian, at (304) 558-0240.*

Sincerely,

Lora A. Lamarre
Senior Archaeologist

SELECTED REFERENCES

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PREPARERS AND CONSULTANTS

Denver Service Center

Craig Cellar, Project Manager — overall project coordination and general sections of plan

Matthew Safford, Co-Project Manager and Natural Resource Specialist — natural resource and visitor use sections of plan and planning coordination

Eric Petersen, Cultural Resource Specialist — cultural resource sections of plan

Stephan Nofield, Outdoor Recreation Planner — socioeconomic sections of plan and community involvement

Harpers Ferry Center

Katherine Brock, Interpretive Planner — visitor use and experience sections of plan

Harpers Ferry National Historical Park

Donald Campbell, Superintendent — overall park management

Gayleen Boyd, Administrative Officer — park administration concerns

Michael Castagnetto, Facility Manager — park operations concerns

Peter Dessauer, Architect — grounds and structures concerns

Jennifer Flynn, Chief Ranger — visitor and resource protection concerns

Dennis Frye. Chief, Interpretation and Cultural Resources Management — cultural resource concerns

T.W. "Bill" Hebb, Chief, Natural Resources Management — natural resources concerns and coordinator of park planning

Ken Starnes, Special Assistant — park management and administration concerns

Marsha Wassel, Education Specialist — visitor experience concerns

National Capital Region

Patrick Gregerson, Chief of Planning — liaison with planning team and document quality

Other Contributors

Patrick Kenney, Natural Resources Specialist — CBA facilitator

Judy Coleman, Supervisory Secretary — meeting and team coordination

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