



Manassas National Battlefield Park

Draft General Management Plan/
Environmental Impact Statement

General Management Plan and Environmental Impact Statement

MANASSAS NATIONAL BATTLEFIELD PARK

Fairfax and Prince William Counties, Virginia

September 2005

This *General Management Plan/Environmental Impact Statement* describes and analyzes three alternatives for managing Manassas National Battlefield Park. The approved plan will help managers make decisions about managing natural and cultural resources, visitation, and development for the next 15 to 20 years. Some issues to be addressed include: commuter traffic on the portions of U.S. Route 29 and Virginia Route 234 in the park, the interpretive approach used to describe the two battles of Manassas and their role in the Civil War, and the types of facilities needed to support that approach. A separate Environmental Impact Statement is being developed for the Manassas National Battlefield Park Bypass, which is designed to remove commuter traffic from state and U.S. routes in the park.

Alternative A, the no-action alternative, describes the existing conditions and current directions of park management. It serves as the basis for comparing the other alternatives and for understanding why certain changes have been proposed. This alternative proposes limited, if any, changes in interpretation and management of the park. Coordination with agencies and other groups would continue. The park would be operated and maintained as before, and there would be very little change in visitor or other park facilities. Issues would be resolved as they emerged and not as the result of a comprehensive plan. Current laws, policies, and guidelines would continue to guide resource management actions.

The two “action” alternatives describe various approaches to managing the park’s resources and visitation. Both call for the removal of commuter and truck traffic from U.S. Route 29 and VA Route 234. **Alternative B (The Preferred Alternative) — The Two Battles of Manassas** proposes a future condition at the park that focuses on interpreting the two Battles of Manassas as distinct military events. The visitor center at Henry Hill would orient visitors to the park as a whole while focusing on First Manassas, while a separate Visitor Contact Station would focus on the events of Second Manassas. **Alternative C — The Defining Moments of the Battles of Manassas** focuses on the “watershed” events of the battles, encouraging visitors towards one major visitor center, and multiple interpretive sites. The existing visitor center at Henry Hill, where a portion of the first battle took place, would be removed and a new visitor center would be constructed near Stone Bridge.

For questions about this document, please submit written material to Superintendent, Manassas National Battlefield Park, 12521 Lee Highway, Manassas, VA 20109-2005, or access the internet at parkplanning.nps.gov. Please note that the NPS practice is to make comments, including names and addresses of respondents, available for public review. After a 60-day review period, during which public meetings will be held, comments will be analyzed and a *Final General Management Plan/Environmental Impact Statement* will be prepared. After a 30-day no-action period, a course of action will be approved through the issuance of a record of decision.

SUMMARY

The purpose of this *General Management Plan/Environmental Impact Statement* is to define a direction for the management of Manassas National Battlefield Park for the next 15 to 20 years. The approved plan will provide a framework for making decisions about managing the natural and cultural resources, visitor use, development, and operations of the park so that future opportunities and problems can be effectively addressed.

This updated plan is necessary to address current issues related to commuter traffic on the portions of U.S. Route 29 and Virginia Route 234 in the park, the interpretive approach used to describe the two battles of Manassas and their role in the Civil War, and the types of facilities needed to support that approach.

ISSUES TO BE ADDRESSED

Issues addressed in this plan include the quality and amount of interpretation devoted to each of the two battles, heavy traffic on U.S. Route 29 and VA Route 234, the preservation and rehabilitation of wartime and other historic structures and sites, recreational use of the park, future operational requirements, and the relationship between current vegetation patterns and the park's overall interpretive goals.

Heavy commuter and truck traffic on the portions of U.S. Route 29 and VA Route 234 that run through the park detracts from visitor enjoyment, safety, and interpretive activities. This traffic makes it difficult for visitors to follow the automobile tour route or to visit various park resources at their own pace.

Current vegetation patterns at the park are reminiscent of wartime patterns, but are often different from the exact wartime conditions that influenced the strategies and tactics of the two Battles of Manassas. Rehabilitation of these historic views would improve interpretive efforts, but that rehabilitation

would also have effects on natural communities.

Recreation is the source of many visits to Manassas National Battlefield Park. It is important to manage this use without threatening or damaging the park's abundant cultural and natural resources or compromising its interpretive program.

The management alternatives described in this plan present challenges for park operations and maintenance. Transferring portions of U.S. Route 29 and VA Route 234 to park control, cultural landscape rehabilitation and maintenance, and upgraded interpretive materials and activities would all generate the need for additional operational and maintenance capacity.

ALTERNATIVES

To achieve the desired conditions at Manassas National Battlefield Park, the planning team developed a "no-action" alternative (continuing present management) and two "action" alternatives for managing the resources and visitor uses of the park. Each action alternative assigns portions of the park to different management zones. The management prescription for each of those zones identifies how those areas could be managed to achieve desired resource conditions and visitor experiences. In each action alternative, the five management zones—Visitor Experience/Services, Cultural Landscape Rehabilitation/Preservation, Motorized Sightseeing/Park Circulation, Recreation, and Park Operations and Maintenance—specify a combination of resource, visitor experience, and facilities conditions.

Alternative A, the No-Action Alternative, represents a continuation of current management direction and trends at Manassas National Battlefield Park, and serves as a baseline for comparing the resource conditions and visitor experiences prescribed by the two

action alternatives. Existing conditions, trends, and management practices would be maintained with only minor changes in the no-action alternative. Managers would continue to follow the special mandates and servicewide mandates and policies. The current, most recognizable features in the park would continue to serve as the primary focus for visitor use and interpretation. Orientation and visitor services related to both battles would continue to be offered at the Henry Hill visitor center.

Under this alternative, historical park uses and development patterns would continue in accordance with the 1983 *General Management Plan*. The main roads within the park (U.S. Route 29 and VA Route 234) would remain open to commuter and truck traffic. Current facilities at the park would be maintained, upgraded, and rehabilitated as needed. Some changes would be made to visitor use patterns to improve access to those lands added to the park since the 1983 GMP was completed (e.g., Brawner Farm and Stuart's Hill tracts).

Alternative B—The Preferred Alternative—The Two Battles of Manassas—A Comprehensive Understanding of Each Battle proposes a future condition at the park that focuses on interpreting the two battles of Manassas as distinct military events. Visitors would gain a thorough understanding of the first and second battles by visiting two separate visitor contact areas, each focused on one battle. These primary interpretive sites, including a visitor center and a visitor contact station, would be the two main focal points of visitor services in the park. Visitors could explore the many historic sites associated with each event throughout the park. The experience at each battlefield would be unique, with stand-alone visitor areas and auto tour routes. Separate, chronological, sequential auto and bicycle tours would be developed for each battle. In this alternative, the rehabilitation of the historic landscape would be critical to enable visitors to understand the events and military tactics associated with each battle.

Overall visitor experience and safety would also be enhanced by the construction of the Manassas National Battlefield Park Bypass. This road would permit the removal of heavy commuter and commercial truck traffic from the portions of U.S. Route 29 and VA Route 234 that run through the park. The U.S. Route 29 bridge over Bull Run would be removed, and through traffic would be further limited with the addition of controlled access facilities at the park's three remaining entry points.

Visitors would experience a battlefield landscape that resembles its wartime appearance. Key interpretive views would be preserved and re-created to help visitors understand how the battles unfolded and the importance of certain locations. Wartime structures would be preserved and other historic structures would be retained to mark the site of wartime buildings.

Alternative C—The Defining Moments of the Battles of Manassas—An Understanding of the Principal Events focuses on the “watershed” events of the battles, encouraging visitors towards one major visitor center and multiple key interpretive sites. Interpretation of these general events, the outcomes of the battles, and the broader story of the Civil War would be emphasized over the detailed military tactics of each battle. Although other sites in the park would be accessible, the concentration of interpretation and visitor use would be in areas that illustrate the “defining” moments of the battles. Rehabilitating the historic scene in some of these areas would help visitors understand these principal events.

In alternative C, the overall reasons and strategy for the Civil War would be presented in a comprehensive way. The importance of the Battles of Manassas would be presented in the overall context of the Civil War. Other stories, such as the local families and African Americans that were affected by the Battles of Manassas could be interpreted in the park. The general stories and outcomes of the battles would also be presented. The existing Henry Hill Visitor Center would be removed, and orientation and visitor services for both battles would be carried out from a new visitor center

near Stone Bridge. The visitor experience would not be highly structured and key interpretive areas could be visited without regard to order or sequence. Visitors could tailor their visit to those elements of the battles in which they were most interested.

Key interpretive areas would explain the battle events. In these areas, historic structures would serve interpretive functions and would be accessible to visitors. Extensive interpretive displays would explain the battle events and view corridors would be developed to enhance visitor understanding of the “watershed” battle events.

Overall visitor experience and safety would also be enhanced by the construction of the Manassas National Battlefield Park Bypass. This road would eliminate heavy commuter and commercial truck traffic through the park (U.S. Route 29 and VA Route 234). Through traffic would be further limited with the addition of controlled access points.

ENVIRONMENTAL CONSEQUENCES

The planning team evaluated the potential consequences that the actions of each alternative could have on natural resources, cultural resources, the visitor experience, the socioeconomic environment, and park operations and maintenance. The beneficial or adverse effects of each alternative were categorized as either short term or long term, and their intensity was rated as negligible, minor, moderate, or major. The impacts of the various alternatives are compared in Table 2-3.

For **alternative A, the no-action alternative**, the presence of heavy commuter and truck traffic volumes on the portions of U.S. Route 29 and VA Route 234 that run through the park would continue to have major adverse impacts on visitor transportation within the park, and would also create adverse impacts on cultural resources, visitor experience, and the park’s soundscape. This traffic would continue to cause excessive delays, making it difficult for visitors to access and use all areas of the park. In addition, visitor focus would remain on First Manassas due to the location of the

visitor center and the heavy volumes of non-park vehicles that inhibit viewing many of the Second Manassas sites.

Alternative A would have no impact or negligible impact on air quality, vegetation and wildlife, threatened, endangered, and rare species, water resources, the socioeconomic environment, and recreation. Because alternative A would not change the way that individuals access private or public property within or near park boundaries, this alternative would have no impact on the socioeconomic environment. The heavy and increasing amount of non-park traffic on park roads would have negative impacts on park operations.

Under **alternative B, the preferred alternative**, the removal of non-park traffic from park roads, rehabilitation of historic vegetation patterns, removal of the existing U.S. Route 29 bridge over Bull Run, and the continued preservation and rehabilitation of historic structures would have a moderate to major long-term beneficial impact on cultural resources, circulation, and visitor experience and use. Enhancement of the Stuart’s Hill Visitor Contact Station and the use of this facility to emphasize Second Manassas would also have a beneficial impact on cultural resources and visitor experience.

Controlled access points at major park entrances would contribute to the beneficial impact on circulation, cultural resources, and visitor use, but would have a minor, long-term adverse impact on owners of private property within park boundaries, especially those who would be re-routed around the removed highway bridge over Bull Run.

Construction activities associated with these changes would have a minor, short-term adverse impact on air quality, vegetation and wildlife, and the park’s soundscape. Air quality outside of the park would be adversely affected by the re-routing of traffic onto the Manassas National Battlefield Park Bypass.

Rehabilitation of historic vegetation patterns would have a long-term, minor adverse impact

SUMMARY

on woodland species (due to the removal of forest habitat) and a minor long-term beneficial impact on species that use open fields and grasslands (due to the re-introduction of such habitats). These changes would create no adverse impacts on threatened, endangered, or rare species. Alternative B would create negligible adverse impacts on water resources.

Enhanced recreation facilities and opportunities would create a minor, long-term benefit for recreation.

Under **alternative C**, the removal of non-park traffic from park roads, removal of the existing U.S. Route 29 bridge over Bull Run, the creation of a new Visitor Center, rehabilitation of some historic views, and the continued preservation and rehabilitation of historic structures would have a major long-term beneficial impact on cultural resources, circulation, and visitor experience and use.

Controlled access points at major park entrances would contribute to the beneficial impact on circulation, cultural resources, and visitor use, but would have a minor, long-term adverse impact on owners of private property within park boundaries.

The construction of a new bridge over Bull Run and associated access roads would have a long-term, adverse impact on cultural resources and water resources. Historic view

rehabilitation would have a minor, long-term adverse impact on some forest-based species, and a minor, long-term beneficial impact on some species that inhabit grasslands and open fields.

Construction activities associated with these changes would have a minor, short-term adverse impact on air quality, vegetation and wildlife, and the park's soundscape. Air quality outside of the park would be adversely affected by the re-routing of traffic onto the Manassas National Battlefield Park Bypass.

COMMENTS ON THE DRAFT PLAN

The Draft General Management Plan/Environmental Impact Statement for Manassas National Battlefield Park is being sent out for public review and comment. After the 60-day review period, public comments will be analyzed. Various elements of the preferred alternative and other alternatives might be modified to address comments. The final plan will include agency and organization letters and responses to all substantive comments. *The Final General Management Plan/Environmental Impact Statement* will be completed and distributed to the public. A record of decision identifying the selected alternative (the approved plan) will be issued after a minimum 30-day no-action period following the release of the final plan.

CONTENTS

PURPOSE OF AND NEED FOR THE PLAN

Purpose and Need	3
Introduction	3
Brief Description of the Park	3
Purpose of the Plan	5
Need for the Plan	6
Next Steps	6
Implementation of the Plan	6
Guidance for the Planning Effort	7
Purpose and Significance	7
Primary Interpretive Themes	7
Historic Context	8
Goals	8
Special Mandates and Administrative Commitments	8
Servicewide Laws and Policies	9
Relationship of Other Planning Efforts to this General Management Plan	15
Planning Issues/Concerns	16
Introduction	16
Planning Issues Addressed in this GMP	16
Issues Identified that are not GMP-Level Issues	21
Impact Topics (Resources and Values at Stake During the Planning Process)	22
Natural Resources	22
Cultural Resources	23
Transportation/Traffic	23
Socioeconomic Environment	24
Recreation	24
Visitor Experience	24
Park Operations and Maintenance	24
Impact Topics Dismissed from Further Analysis	25
Soils, Topography, and Geology	25
Prime Farmland Soils	25
Indian Trust Resources	26
Ethnographic Resources	26
Environmental Justice	26
Land Use	27
Public Health and Safety	27

ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE

The Alternatives	31
Introduction	31
Formulation of Alternatives	31
Identification of the Preferred Alternative	32
Management Prescriptions	32
Visitor Experience/Services Prescription	32
Cultural Landscape Rehabilitation/Preservation Prescription	33
Motorized Sightseeing/Park Circulation Prescription	34
Recreation Prescription	34
Park Operations and Maintenance Prescription	35

CONTENTS

Alternative A—Continuing Current Management Principles (No Action)	37
Concept	37
Management Zones	37
Orientation and Visitor Services	38
Cultural Landscape Rehabilitation/Preservation Prescription	43
Transportation and Circulation	43
Park Operations and Maintenance	44
Boundary Adjustments	44
Estimated Costs	44
Alternative B (NPS Preferred Alternative)—The Two Battles of Manassas— A Comprehensive Understanding of Each Battle	45
Concept	45
Orientation and Visitor Services Prescription	45
Cultural Landscape Rehabilitation/Preservation Prescription	51
Motorized Sightseeing and Circulation Prescription	53
Recreation Prescription	53
Park Operations and Maintenance Prescription	53
Boundary Adjustments	54
Cost Estimates	54
Alternative C—The Defining Moments of the Battles of Manassas— An Understanding of the Principal Events	55
Concept	55
Orientation and Visitor Services Prescription	55
Cultural Landscape Rehabilitation/Preservation Prescription	61
Motorized Sightseeing and Circulation Prescription	62
Recreation Prescription	62
Park Operations and Maintenance Prescription	62
Boundary Adjustments	63
Estimated Costs	64
Environmentally Preferred Alternative	65
Mitigation Measures/Best Management Practices	67
Natural Resources	67
Cultural Resources	68
Socioeconomic Environment	68
Visitor Experience	68
Future Studies and Implementation Plans Needed	69

AFFECTED ENVIRONMENT

Introduction	79
Natural Environment	80
Air Quality	80
Soundscape	80
Vegetation and Wildlife	80
Water Resources (Water Bodies, Water Quality, Wetlands and Floodplains)	84
Cultural Environment	87
Historic Structures	87
Cultural Landscapes	88
Archeological Resources	88
Museum Collections and Archives	90
Transportation/Traffic	91
Roadway Characteristics	91

Traffic Counts and Levels of Service	91
Safety	93
Emergency Response	93
Socioeconomic Environment	94
Population	94
Economy	94
Employment	94
Per Capita Income	95
Poverty	95
Recreation	96
Visitor Experience	97
Visitation and Use Patterns	97
Visitor Profile	97
Projection of Future Use	98
Park Operations and Maintenance	99

ENVIRONMENTAL CONSEQUENCES

Introduction	103
Methodology for Assessing Impacts	103
Impact Type	103
Intensity	103
Context	103
Duration	103
Direct Versus Indirect Impacts	103
Impairment to Park Resources and Values	104
Cumulative Impacts	104
Cumulative Impact Scenario	104
Impacts on the Natural Environment	107
Air Quality	107
Soundscape	110
Vegetation and Wildlife	113
Threatened, Endangered, and Rare Species and Natural Communities	118
Water Resources (Water Bodies, Water Quality, Wetlands and Floodplains)	122
Impacts on Cultural Resources	126
Impacts on Transportation	138
Impacts on the Socioeconomic Environment	142
Impacts on Recreation	145
Impacts on Visitor Experience	147
Impacts on Park Operations and Maintenance	151
Unavoidable Adverse Impacts	153
Relationship of Short-Term Uses of the Environment and Enhancement of Long-Term Productivity	154
Irreversible and Irretrievable Commitment of Resources	155

CONSULTATION AND COORDINATION

Public Meetings, Section 106 Consultation, and Interagency Coordination	159
List of Agencies to Which this Document was Sent	166

CONTENTS

APPENDIXES, BIBLIOGRAPHY, PREPARERS, AND INDEX

Appendix A: Description of Resources	169
Appendix B: Description of Battle Events	181
Appendix C: Relevant Legislation and Special Mandates	187
Appendix D: Estimated Costs	195
Appendix E: Threatened, Endangered, and Rare Species and Natural Communities	197
Appendix F: Manassas National Battlefield Park Bypass Alternative Routes	208
Selected Bibliography	210
List of Preparers	217
Index	218

Maps

Map 1-1: Regional Map	4
Map 1-2: Vicinity Map	5
Map 2-1: Alternative A: Cultural and Historic Landscape	39
Map 2-2: Alternative A: Transportation and Circulation	41
Map 2-3: Alternative B: Cultural and Historic Landscape	47
Map 2-4: Alternative B: Transportation and Circulation	49
Map 2-5: Alternative C: Cultural and Historic Landscape	57
Map 2-6: Alternative C: Transportation and Circulation	59
Map 3-1: Historic Vegetation Patterns	82
Map 3-2: Existing Water Resources	86
Map 3-3: List of Classified Structures	89
Map 3-4: Existing Circulation Facilities	92
Map 4-1: Proposed Forest Cuts and Reforestation Sites	119
Map A-1: First Manassas (Phases 1 and 2)	182
Map A-2: First Manassas (Phase 3 and Union Retreat)	183
Map A-3: Second Manassas (Phases 1 and 2)	185
Map A-4: Second Manassas (Phase 3 and Union Retreat)	186
Map F-1: Bypass Study Alternative	209

Tables

Table 1-1: Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park	11
Table 1-2: Carrying Capacity Standards and Indicators	20
Table 2-1: Management Prescriptions	36
Table 2-2: Alternatives Summary	70
Table 2-3: Summary of Impacts of Implementing the Alternatives	73
Table 3-1. Level of Services for U.S. Route 29 and Virginia Route 234 Corridors	91
Table 3-2 Visitor Use for 2003	97
Table 3-3: Annual Visitor Use	98
Table 5-1: GMP Actions Requiring Section 106 Compliance	161
Table 5-2: Class C Cost Estimates	196

Introduction, Purpose, and Need



PURPOSE AND NEED

INTRODUCTION

The National Parks and Recreation Act of 1978 requires each unit of the National Park Service (NPS) to develop a General Management Plan (GMP), and NPS *Management Policies* 2001 state “the Service will maintain an up-to-date GMP for each unit of the national park system” (2.3.1 General Management Planning).

The purpose of a GMP is to ensure that a park has a clearly defined direction for resource preservation and visitor use to best achieve the National Park Service’s mandate to preserve resources unimpaired for the enjoyment of future generations. General management planning also makes the National Park Service more effective, collaborative, and accountable by:

- ***Providing a balance between continuity and adaptability in decision making***—Defining the desired conditions to be achieved and maintained in a park provides a touchstone that allows park managers and staff to constantly adapt their actions to changing situations while staying focused on what is most important about the park.
- ***Analyzing the park in relation to its surrounding ecosystem, cultural setting, and community***—This helps park managers and staff understand how the park can interrelate with neighbors and others in ways that are ecologically, socially, and economically sustainable. Decisions made within such a larger context are more likely to be successful over time.
- ***Affording everyone who has a stake in decisions affecting a park an opportunity to be involved in the planning process and to understand the decisions that are made***—National parks are often the focus of intense public interest. Public involvement throughout the planning process provides opportunities for park managers and staff to interact with the public and learn about concerns, expectations, and values. Public involvement also provides settings for park managers and staff to share

information about the park’s purpose and significance, and other guidelines for management and discuss issues and constraints as well.

The ultimate outcome of general management planning for national parks is an agreement among the National Park Service, its partners, and the public on why each area is managed as part of the national park system, what resource conditions and visitor experience should exist there, and how those conditions can best be achieved and maintained over time.

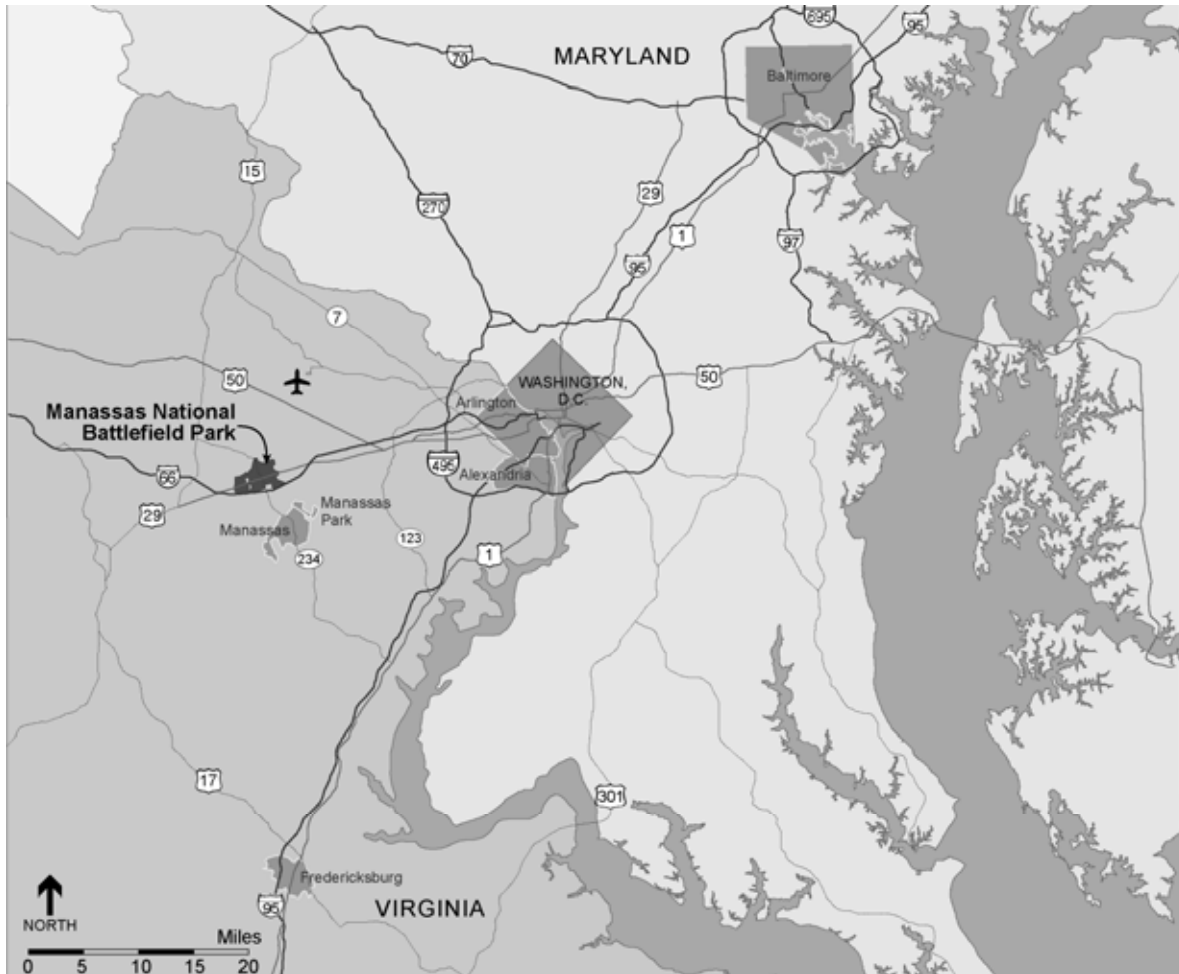
This *Draft General Management Plan/Environmental Impact Statement* for Manassas National Battlefield Park presents and analyzes three alternative future directions, including one “no-action” alternative and two “action” alternatives.

BRIEF DESCRIPTION OF THE PARK

The maps in this document are for illustration purposes only and are not drawn perfectly to scale.

Because of its “historical importance as the battlefield site of the First and Second Battles of Manassas,” Secretary of the Interior Harold L. Ickes designated Manassas National Battlefield Park on May 10, 1940. Subsequent legislation in 1954, 1980, and 1988 established the present park boundary to “preserve the most historically important lands relating to the two battles of Manassas.”

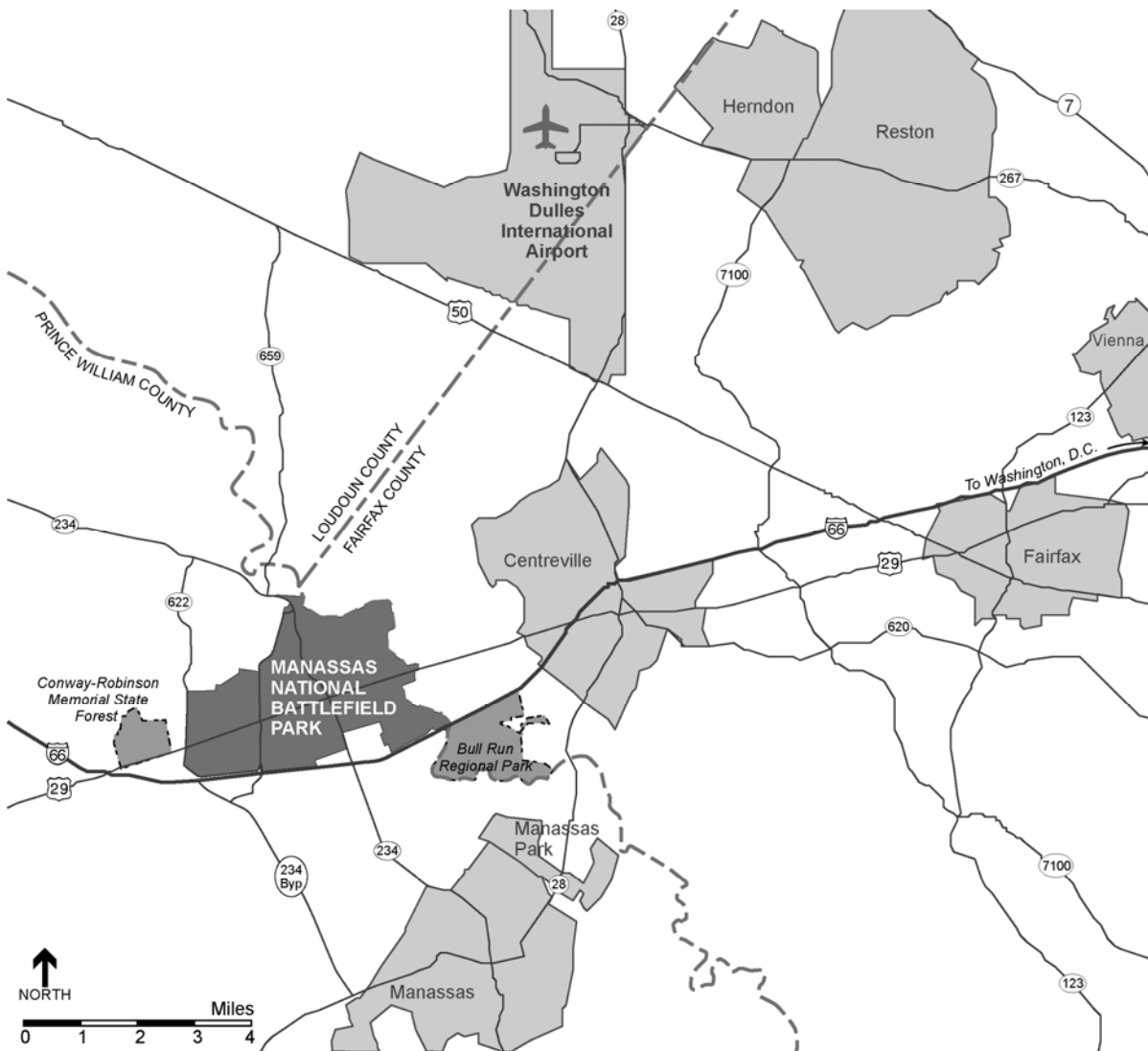
Manassas National Battlefield Park is located in the Piedmont region of Virginia in Fairfax and Prince William counties (see Map 1-1), approximately 25 miles west of Washington, D.C. Of the park’s 5,071 acres, the federal government owns approximately 85% and private owners hold the remaining 15%. Interstate 66 borders the park to the south and Pageland Lane (VA 705) borders the park to the west. The park is also bisected by Lee Highway (U.S. Route 29) and Sudley Road (Virginia Route 234).



MAP 1-1: REGIONAL MAP

These two roads, also known by their historic names of the Warrenton Turnpike and Sudley Road, follow the basic historic road alignments used by Civil War troops (see Map 1-2). Today they provide the main visitor access to the battlefields. The roads also receive heavy use by commuters, residents, and trucks from nearby quarries and construction operations. The heavy volumes of commuter and truck traffic create a safety problem and encroach upon the visitor experience. The farmlands and fields that historically surrounded the park are giving way to suburban Washington, D.C. While the areas to the north of the park retain some rural character, the areas south and west of the park now bustle with residential and commercial development.

The park's most important resources are the large tracts of land managed to represent the battlefield landscape as it existed at the time of the Civil War battles. The battlefield landscape comes under the cultural resource category of cultural landscapes and will be analyzed as a cultural landscape impact topic later in this document. Included in this landscape are three houses that date from the Civil War period, several post-war historic buildings, a Confederate cemetery, the reconstructed Stone Bridge over Bull Run, six miles of historic road traces, and numerous other resources including historic structures, archeological resources, cemeteries, trenches and earthworks. A detailed description of some of the park's cultural resources is provided in Appendix A: Description of Resources.



MAP 1-2: VICINITY MAP

PURPOSE OF THE PLAN

The purpose of this *Draft General Management Plan/Environmental Impact Statement* is to guide the decision making and problem solving related to resource protection and visitor experience at Manassas National Battlefield Park. The approved plan will provide a framework for proactive decision making, including decisions on visitor use and on managing natural and cultural resources and development. This framework will allow managers to address future opportunities and problems effectively.

This plan will prescribe the resource conditions and visitor experiences that are to be achieved and maintained at Manassas National Battlefield Park over time. Management decisions must be made where laws, policies, and regulations do not provide clear guidance or where limitations will be based on the park's purpose, resource analysis, and the evaluation of environmental consequences and costs.

This plan will not document how particular programs or projects will be implemented or prioritized. Those decisions will be made as part of more detailed implementation planning,

PURPOSE OF AND NEED FOR THE PLAN

which will be linked to the broad, comprehensive decisions presented in this plan.

NEED FOR THE PLAN

Manassas National Battlefield Park has been operating under the *1983 General Management Plan*, and the *Manassas National Battlefield Park Amendments* of 1988. The latter brought the Stuart's Hill tract into the park and authorized the study of alternatives for the portions of U.S. Route 29 and Virginia Route 234 that bisect the park. Although many elements of the original plan are still applicable, NPS planning guidance has changed since 1983, and the older plan does not address current issues, particularly those related to transportation within the park and interpretation of park resources.

The *Manassas National Battlefield Park Amendments of 1988* brought into the park additional lands important to the Second Battle of Manassas, required cooperation with state and nearby jurisdictions in protecting important historic views from within the park, and directed NPS to study the relocation of two public highways.

With the acquisition of the Stuart's Hill area, the park has the opportunity to provide a more comprehensive interpretation of the Second Battle of Manassas. The alternatives presented in this draft plan recommend actions that may be taken to rehabilitate the historic battlefield landscape, enhance the visitor understanding of the two battles, and improve the visitor experience through increased interpretive opportunities of both battles and the entire U.S. Civil War. The draft plan also addresses potential new facilities or developments required for implementing the alternatives, with a view to preserving the historic character of the battlefield.

Since 1983 the volumes of commuter and truck traffic along U.S. Route 29 and VA Route 234 have increased dramatically, creating a safety problem and diminishing the visitor experience. Concurrent with this GMP effort, the Federal Highway Administration and the National Park Service have completed the

Manassas National Battlefield Park Bypass Draft Environmental Impact Statement (Bypass Study). The candidate alignments (including the preferred alternative) for the bypass is shown in appendix F.

Regardless of the specific alignment, the completion of the bypass will allow for the eventual closure of U.S. Route 29 and VA Route 234 within the park to through traffic. This *Draft General Management Plan/Environmental Impact Statement* will address internal circulation, access, and transportation concepts that can be implemented for each alternative once a new bypass is in place. All issues related to traffic impacts outside park boundaries (either from the bypass itself or from the resulting restrictions on roads in the park) are addressed in the Bypass Study.

NEXT STEPS

As previously described, the purpose of a General Management Plan is to provide the park with an overall vision of desired future conditions as a foundation for decision making. The implementation of the approved plan for Manassas National Battlefield Park will depend on future funding as well as the timing of external factors such as the creation of a new bypass route. The approval of the plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the approved plan could take many years to achieve. Because the bypass could also take a long time to implement, the alternatives of this draft GMP provide for interim management strategies to address concerns of traffic congestion and visitor safety.

IMPLEMENTATION OF THE PLAN

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. The implementation of the approved plan will also depend upon the completion of additional feasibility studies and more detailed planning and environmental documentation related to the major actions proposed.

GUIDANCE FOR THE PLANNING EFFORT

PURPOSE AND SIGNIFICANCE

Manassas National Battlefield Park was established in 1940 to preserve the scene of two major Civil War battles. Located a few miles north of the prized railroad junction of Manassas, Virginia, this peaceful slice of the Virginia countryside bore witness to clashes between the armies of the North and South in 1861 and 1862. Descriptions and depictions of the major events of the two battles are found in Appendix B: Description of Battle Events.

The park's purpose statement describes the fundamental reasons Manassas National Battlefield Park was set aside by the Secretary of the Interior as part of the national park system. The purpose statement is the standard against which all decisions and actions are tested. It is based upon the park's enabling legislation, legislative history, and NPS policies. The significance statement defines the importance of the park's resource in relevant regional, national, and international contexts and relates directly to the park's purpose and why the park was established. Knowing the park's significance helps managers set protection priorities and determine desirable visitor experiences. This significance statement describes why Manassas National Battlefield Park is a special place and explains the importance of the battle events and resources as they relate to the park's purpose.

Park Purpose

Manassas National Battlefield Park was established to preserve the historic landscape containing historic sites, buildings, objects, and views that contribute to the national significance of the First and Second Battles of Manassas, for the use, inspiration, and benefit of the public.

Park Significance

Manassas National Battlefield Park is nationally significant because it includes the locations of the First and Second Battles of Manassas. Many park resources contribute to this nation-

al significance, the public's appreciation of the battlefield events, and its understanding of the social and economic impacts of the Civil War.

- The park—which is one of only a few Civil War battlefield parks that include the majority of the actual battlefield areas where troops formed, fought, and died—provides visitors with an opportunity to experience the features that shaped the two battles. These features include historic structures, road traces, sites, and cemeteries. Historic artifacts on exhibit from the park's museum collections and archeological sites within the park represent the First Battle of Manassas (July 21, 1861) and the Second Battle of Manassas (August 28-30, 1862).
- The park contains cultural landscapes from the period of the battles (1861-1862) that contain historic features of the battles, as well as woodlands, fields, streams, rolling hills, and certain views or vistas that are representative of the physical setting that existed at the time of the battles. The park also contains cultural landscapes from the period after the battles (1865-1940) that commemorate the battles with monuments and other objects erected in memory of soldiers who fought there.

PRIMARY INTERPRETIVE THEMES

- The park's primary interpretive themes focus on the events of the First and Second Battles of Manassas, as well as the way that those battles affected the surrounding community and the nation as a whole. These interpretive themes are stated below.
- The First Battle of Manassas and the Second Battle of Manassas were two major battles of the American Civil War—each unique in strategy, tactics, and consequences for the outcome of the war.
- The devastating impact of the battles on the social and economic fabric of the community, and the history of local families is important for an understanding of the tragic dimensions of the Civil War.
- The First and Second Battles of Manassas illustrate the application and advancement of 19th century military science and technology.
- The experiences of soldiers of all ranks from both sides of the conflict provide meaningful insights into the two battles of Manassas.

PURPOSE OF AND NEED FOR THE PLAN

The Manassas Battlefields and related features represent local, state, and national efforts to preserve and commemorate our nation's Civil War heritage.

HISTORIC CONTEXT

The two battles of Manassas are significant in the nation's history because

- the First Battle of Manassas was the first major land battle of the Civil War, and it dispelled all preconceived notions of a short war; the 900 Americans killed on the battlefield were graphic proof that Civil War would be a protracted bloody struggle.
- the Second Battle of Manassas brought the Confederacy to the height of its power and opened the way for the first Confederate campaign into the North.
- the two battles of Manassas are significant in the region's history because:
- the two battles illustrate northern Virginia's role in the Civil War and teach aspects of that history to visitors from other parts of the region, the nation, and other countries.
- the park preserves an historic agrarian landscape as the setting for the two battles. This landscape is also important for its environmental quality and its role in preserving natural resources.

GOALS

Based on the park's purpose and significance, the following goals for Manassas National Battlefield Park establish the general condition of cultural and natural resources and visitor experiences desired in the future. The purpose of Manassas National Battlefield Park will be fulfilled when the following goals are achieved:

- The historic landscape is maintained in a way that gives visitors an understanding of the events of the two battles.
- Significant cultural resources of the battles and their commemoration are identified, preserved, protected, maintained, and rehabilitated where appropriate.
- Visitors learn about the battles through a variety of high-quality interpretive and educational experiences, programs, and facilities.

- All park uses and visitor experiences are conducted in a manner that is compatible with the park's purpose.
- Roads within the park are used primarily by visitors, residents who live within park boundaries, and for park operations.
- Modern intrusions into the historic landscape are minimal.
- The park cooperates with other local, state, and national groups to protect resources and tell the stories of the battles of Manassas.
- The rural and agrarian character of views outside the park is maintained.
- Park facilities and services provide visitors with a high-quality experience and support the park's purpose.

The alternatives presented in this draft plan consider and explore these goals in somewhat different ways. The alternatives set forth actions to achieve these goals in a manner that is consistent with the park's purpose and significance.

SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS

In addition to the park's purpose and significance, there are federal laws and policies that shape park resource management and visitor use decisions. Some of the most relevant laws, policies, and programs include the Chesapeake Bay Agreement, Clean Air Act, Endangered Species Act, Executive Orders 11988 and 11990 regarding the management of floodplains and wetlands, National Environmental Policy Act, National Historic Preservation Act, National Park Service Organic Act, and the National Park Service Mission Goals.

In the process of preparing this *General Management Plan/Environmental Impact Statement*, the National Park Service derived its guidance from several laws and regulations. All decisions made through general management planning must fit within the broad parameters established by: 1.) the park's particular mission and mission goals; 2.) any special mandates or commitments that may apply to the park; and 3.) the large body of laws and policy applicable to all units of the national park system. The purpose of this section is to clarify and articulate

the parameters established by special mandates, administrative commitments, and servicewide laws and policy.

Special mandates are park-specific and typically found within the park's establishing legislation (see Appendix C: Relevant Legislation and Special Mandates). The park was designated by a secretarial order in 1940. In 1954 Congress added another 1,400 acres to the park and established a ceiling of approximately 3,000 acres for the park.

Subsequent federal legislation in 1980 raised the acreage limit to 4,525 acres and identified a specified boundary, with no provision for changes in the boundary.

The *Manassas National Battlefield Park Amendments of 1988* (P.L. 100-46) expanded the park to nearly 5,100 acres and stated that the Secretary of the Interior shall "conduct a study, in consultation with the Commonwealth of Virginia, the Federal Highway Administration, and Prince William County, regarding the relocation of U.S. Route 29 and VA Route 234 in, and in the vicinity of, the park."

The act also requires the Secretary of the Interior to "cooperate with the Commonwealth of Virginia and local governments in order to promote and achieve scenic preservation of views from within the park through zoning and other means determined feasible."

Additional regulatory provisions apply in accordance with Title 36, Code of Federal Regulations, Chapter 1, Parts 1-7, authorized by Title 16 United States Code, Section 3, and the Superintendent's Compendium.

Manassas National Battlefield Park has also entered into a partnership with the Smithsonian Institution to rehabilitate more than 100 acres of Civil War battlefield, including 45 acres of valuable wetlands in the Stuart's Hill tract. This tract contains land that had been drastically altered in preparation for a mixed-use development. Alterations included re-contouring the area, constructing an entrance road, and re-configuring the drainage network in preparation for construction of a housing

development. The developer also altered the hydrology and filled in wetland areas.

After years of planning and negotiations, the rehabilitation and mitigation project began in June 2003 and was completed in November 2003. It involved excavation of over 100 acres, grading back to the 1862 contours and rehabilitating approximately 30 acres of emergent wetlands and 15 acres of forested wetlands. Upland areas were planted in native warm season grasses, creating a habitat type that is rapidly dwindling in Virginia.

The regrading and repositioning of this section of the park is now considered to be within one meter contours present during the Second Battle of Manassas of 1862. A portion of the area was used as a mitigation site for the National Air and Space Museum's Udvar-Hazy Center near Washington-Dulles International Airport, while helping the park meet its requirement to preserve historic landscape features and the integrity of the battlefield site.

SERVICEWIDE LAWS AND POLICIES

Management of national park system units is guided by numerous congressional acts, executive orders, and specific NPS policies. As with all units of the national park system, the management of Manassas National Battlefield Park is guided by the 1916 Organic Act (which 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; the National Environmental Policy Act; and other applicable federal laws and regulations, such as the Endangered Species Act and the National Historic Preservation Act. Actions are also guided by the National Park Service's *Management Policies 2001*.

Many resource conditions and some aspects of visitor experience are prescribed by these legal mandates and NPS policies. This plan is not needed to decide, for instance, to protect endangered species and archeological resources, and provide access for visitors with disabilities. The conditions prescribed by laws, regulations, and policies most pertinent to the planning and management of the park are summarized in Table 1-1.

**Table 1-1:
Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park**

Natural Resources	
Air Quality	The National Park Service has the responsibility to protect air quality under both the 1916 Organic Act and the Clean Air Act. Accordingly, the National Park Service will seek to perpetuate the best possible air quality in parks to preserve natural resources and systems, preserve cultural resources, and sustain visitor enjoyment, human health, and scenic vistas Source: Clean Air Act NPS <i>Management Policies 2001</i>—4.7.1 “Air Quality”; and NPS DO 77, “Natural Resources Management Guidelines”
Natural Soundscape	The National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks. Using appropriate management planning, superintendents will identify what levels of human caused sound can be accepted with the management purposes of the park. Source: NPS <i>Management Policies 2001</i>—4.9 “Soundscape Management” and DO 47, “Soundscape Preservation and Noise Management”
Vegetation and Wildlife	The National Park Service will maintain as parts of the natural ecosystem all native plants and animals in the park. The National Park Service will achieve this maintenance by (1) preserving and restoring natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur; (2) Restoring native plant and animal populations and the communities in parks when they have been extirpated by past human actions; and (3) Minimizing human impact on native plants, animals, populations, communities, and ecosystems and the processes that sustain them. Source: NPS <i>Management Policies 2001</i>—4.4 “Biological Resource Management”
Threatened and Endangered Species	The National Park Service will survey for, protect, and strive to recover all species native to national park system units that are listed under the Endangered Species Act. The National Park Service will determine all management actions for the protection and perpetuation of federally, state-, or locally listed species through the park management planning process; and will include consultation with lead federal and state agencies as appropriate. Source: Endangered Species Act and NPS <i>Management Policies 2001</i>—4.4.2.3 “Management of Threatened and Endangered Plants and Animals”
Lightscape Management/ Night Sky	The National Park Service will preserve to the greatest extent possible, the natural lightscapes of parks, which are natural resources and values that exist in the absence of human-caused light. Current policy desires a condition whereby excellent opportunities to see the night sky are available. It is desired that artificial light sources both within and outside the park do not affect opportunities to see the night sky unacceptably and adversely, and that artificial light sources should be shielded when possible. Current policy requires artificial light sources be restricted to those areas where security, basic human safety, and special cultural resource requirements must be met. Source: NPS <i>Management Policies 2001</i>—4.10 “Lightscape Management”
Habitat Manipulation	In historic zones, habitat manipulation may be used to recreate a scene that is mandated by the enabling legislation of the area, the GMP, or is deemed essential to the original intent for which the park was designated. For historic zones in parks where a historical perspective is not essential to the management goals or original purposes for the area, or to the intent of the enabling legislation, the area should be managed as a natural area to the largest extent possible and consistent with Sections 106 and 110 of the National Historic Preservation Act. Source: NPS DO 77, “Natural Resources Management Guidelines”
Soils	The National Park Service actively seeks to understand and preserve the soil resources of the park, 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. Source: NPS <i>Management Policies 2001</i>—4.8.2.4 “Soil Resource Management”

Table 1-1: Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park	
Topography and Geology	The park's geologic resources are preserved and protected as integral components of the park's natural systems. Source: <i>NPS Management Policies 2001</i> and NPS DO 77, "Natural Resources Management Guidelines"
Water Resources/ Water Quality	Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards. NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater. Source: Clean Water Act; Executive Order (EO) 11514, "Protection and Enhancement of Environmental Quality"; <i>NPS Management Policies 2001</i>; and DO 77, "Natural Resources Management Guidelines"
Floodplains	Natural floodplain values are preserved or restored. Long- and short-term environmental effects associated with the occupancy and modification of floodplains are avoided. When it is not practicable to locate or relocate development or inappropriate human activities to a site outside the floodplain or where the floodplain will be affected, the DO 77-2 guides National Park Service procedures, including: • Preparing and approving a statement of findings (SOF); • Using nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing impacts on the natural resources of floodplains; • Ensuring that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60). Source: EO 11988, "Floodplain Management"; Rivers and Harbors Act; <i>NPS Management Policies 2001</i>; and DO 77-2, "Floodplain Management"
Wetlands	The natural and beneficial values of wetlands are preserved and enhanced. The National Park Service implements a "no net loss of wetlands" policy and strives to achieve a longer-term goal of net gain of wetlands across the national park system through the restoration of previously degraded wetlands. The National Park Service avoids to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoids direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The National Park Service compensates for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously degraded. Source: Clean Water Act; EO 11990, "Protection of Wetlands"; <i>NPS Management Policies 2001</i>; and DO 77-1, "Wetland Protection"
Cultural Resources	
Archeological Resources	Archeological sites are identified and inventoried and their significance is determined and documented. Research is conducted to support interpretation and resource management. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the Virginia State Historic Preservation Office and American Indian tribes. Some archeological sites that can be adequately protected may be interpreted to visitors. Source: National Historic Preservation Act of 1966, as amended (16 USC 470); Archeological Resources Protection Act; the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (36 CFR 800); <i>NPS Management Policies 2001</i>; and DO 28, "Cultural Resource Management Guideline"

Table 1-1: Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park	
Cultural Landscapes	Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing on the National Register, 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 Guidelines for Preserving, Rehabilitating, Restoring, and reconstructing Historic Buildings. Source: National Historic Preservation Act of 1966, as amended (16 USC 470); 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 Preserving, Rehabilitating, Restoring, and reconstructing Historic Buildings(1995); <i>NPS Management Policies 2001</i>; and DO 28, "Cultural Resources Management Guideline"
Museum Collections and Archives	All museum collections and archives (artifacts, objects, specimens, and manuscript collections, other documents, and photographs) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for their access to and use for exhibits, research, and interpretation. The qualities that contribute to the significance of collections are protected in accordance with established standards. Source: National Historic Preservation Act of 1966; American Indian Religious Freedom Act of 1978; Archeological and Historic Preservation Act of 1974; Archeological Resources Protection Act of 1979; Native American Graves Protection and Repatriation Act of 1990; <i>NPS Management Policies 2001</i>; <i>NPS Museum Handbook</i>; and DO 28, "Cultural Resource Management Guideline"
Historic Structures	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 (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable). Source: National Historic Preservation Act of 1966, as amended (16 USC 470); Archeological and Historic Preservation Act; Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and reconstructing Historic Buildings (1995); Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (36 CFR 800); <i>NPS Management Policies 2001</i>; and DO 28, "Cultural Resource Management Guideline"
Ethnographic Resources	Ethnographic resources are variations of <i>natural</i> resources and standard cultural resource types. They are subsistence and ceremonial locales and sites, structures, objects, and rural and urban landscapes assigned cultural significance by traditional users. Certain contemporary American Indian and other communities are permitted by law, regulation, or policy to pursue customary religious, subsistence, and other cultural uses of NPS resources with which they are traditionally associated. Recognizing that its resource protection mandate affects this human use and cultural context of park resources, the National Park Service plans and executes programs in ways to safeguard cultural and natural resources while reflecting informed concern for contemporary peoples and cultures traditionally associated with them. Source: National Historic Preservation Act of 1966, as amended (16 USC 470); Advisory Council on Historic Preservation implementing regulations; <i>NPS Management Policies 2001</i>; DO 28, "Cultural Resource Management Guideline"; EO 13007, "American Indian Sacred Sites"; American Indian Religious Freedom Act; and Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (36 CFR 800)

**Table 1-1:
Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park**

Socioeconomic Environment	
Visitor Use and Experience	Park 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 park. No activities occur that would cause derogation of the values and purposes for which the park has been established. For all zones, districts, or other logical management divisions within a park, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas. Park visitors will have opportunities to understand and appreciate the significance of the park and its resources, and to develop a personal stewardship ethic. To the extent feasible, programs, services, and facilities in the park are accessible to and usable by all people, including those with disabilities. Source: NPS Organic Act; National Park System General Authorities Act; NPS Management <i>Policies 2001</i>; Architectural Barriers Act of 1968; Americans with Disabilities Act of 1990; Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities (28 CFR 36); Uniform Federal Accessibility Standards of 1984 (UFAS); U.S. Access Board Draft Accessibility Guidelines for Outdoor Developed Areas of 1999; NPS <i>Management Policies 2001</i>; DO 42, "Accessibility for Visitors with Disabilities in NPS Programs, Facilities, and Services"; Rehabilitation Act of 1973; Secretary of the Interior's regulation 43CFR17, "Enforcement on the Basis of Disability in Interior Programs"
Environmental Justice	Federal agencies are required to assess whether their actions have a disproportionately high and adverse human health or environmental effects on minority and low-income populations. Source: National Environmental Policy Act; DO 12, "Conservation Planning, Environmental Impact Analysis, and Decision-making"; CEQ regulations; EO 12989, "Environmental Justice in Minority and Low-Income Populations"
Other Topics	
Land Protection	The National Park Service is required by its Organic Act to protect and preserve unimpaired the resources and values of the National Park Service while providing for public use and enjoyment. When acquisition is necessary and appropriate, the National Park Service will acquire those lands and/or interests as promptly as possible. Land protection plans are prepared to determine and publicly document what lands or interests in land need to be in public ownership, and what means of protection are available to achieve the purposes for which the national park was created. Source: NPS <i>Management Policies 2001</i>—3.0, "Land Protection"
Sustainable Design/ Development	NPS and concessionaire visitor management facilities are harmonious with park 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 park operations, facilities management, and development in the park—from the initial concept through design and construction—reflect principles of resource conservation. Thus, all park developments and park operations are sustainable to the maximum degree possible and practical. New developments and existing facilities are built and modified according to the <i>Guiding Principles of Sustainable Design</i> (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. Value planning, which may be used interchangeably with value analysis/value engineering/value management, is most often used when value methods are applied on general management or similar planning activities. Source: NPS <i>Management Policies 2001</i>; EO 13123, "Greening the Government through Efficient Energy Management"; EO 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition"; NPS <i>Guiding Principles of Sustainable Design</i>; DO 13, "Environmental Leadership"; DO 90, "Value Analysis."

Table 1-1: Servicewide Mandates and Policies Pertaining to Manassas National Battlefield Park	
Transportation	Visitors have reasonable access to the park, and there are connections from the park to regional transportation systems as appropriate. Transportation facilities in the park provide access for the protection, use, and enjoyment of park resources. They preserve the integrity of the surroundings, respect ecological processes, protect park resources, and provide the highest visual quality and a rewarding visitor experience.
	The National Park Service participates in all transportation planning forums that may result in links to parks or impact park resources. Working with federal, tribal, state, and local agencies on transportation issues, the National Park Service seeks reasonable access to parks, and connections to external transportation systems.
	Source: NPS <i>Transportation Planning Guidebook</i>, NPS <i>Management Policies 2001</i>

RELATIONSHIP OF OTHER PLANNING EFFORTS TO THIS GENERAL MANAGEMENT PLAN

Manassas National Battlefield Park is located in Prince William and Fairfax Counties, Virginia. Properties surrounding the park are primarily privately owned residential and agricultural lands. There are a few commercial and state-owned parcels near the park. There are no tribal lands nearby.

Several federal, state, and local plans, either underway or recently completed, will affect conditions at Manassas National Battlefield Park. Many of these plans involve new or altered transportation facilities in the vicinity of the park.

Other relevant planning efforts include visitor surveys and interpretation plans. These plans are described in detail below.

- ***Manassas National Battlefield Park Bypass Environmental Impact Statement (Bypass Study), FHWA:*** This study area was developed based on preliminary studies conducted within the project area, and is large enough to accommodate a variety of transportation improvement alternatives in the vicinity of the Manassas National Battlefield Park to alleviate traffic and congestion within the park. The study area for the project covers portions of Prince William, Loudoun, Fairfax, and Fauquier Counties, the Cities of Manassas and Manassas Park, and the Town of Haymarket. These efforts would improve circulation and visitor experience within the park by removing commuter and truck traffic from the state and U.S. routes in the park.
- ***Interstate 66 Multimodal Transportation and Environmental Study (I-66 Study), Virginia Department of Transportation (VDOT):*** VDOT and the Virginia Department of Rail and Public Transportation (VDRPT) have initiated the study for improving mobility along the I-66 Corridor from just west of the I-66/Capital Beltway (I-495) interchange in Fairfax County to the I-66/U.S. Route 15 interchange in Prince William County (approximately 24 miles). This Study will examine possible improvements to I-66, Metrorail, Virginia Railway Express, and express bus service. Transportation improvements to this corridor are necessary to enhance safety and to provide increased capacity for current and projected future travel demands.
- ***Tri-County Parkway Location Study and Environmental Impact Statement (Tri-County Parkway Study), VDOT:*** The Tri-County Parkway Location Study team is evaluating a new north/south transportation link in Northern Virginia to connect the City of Manassas with I-66 and the Loudoun County Parkway in the Dulles area. The Tri-County Parkway would be approximately 10 miles long, traversing portions of Prince William, Fairfax, and Loudoun Counties, along with the Cities of Manassas and Manassas Park. The concept for a Tri-County Parkway is identified in the Northern Virginia 2020 Transportation Plan and in the comprehensive plans for Fairfax, Loudoun, and Prince William Counties.
- ***VA Route 234 Bypass North, FHWA:*** This is the remaining section of the 10-mile Route 234 Manassas Bypass. In 1997, VDOT opened 5.3 miles of the road from Interstate 66 to VA Route 28. Construction has not yet begun on the Bypass North.
- ***Manassas National Battlefield Park Transportation Study, June 1996, NPS:*** This study examined the operational and safety characteristics of the traffic and parking conditions within the park. It identified several parking areas that were over capacity, as well as roads and intersections that posed the greatest safety risk to park visitors.
- ***A Plan for the Interpretation of Manassas National Battlefield Park, December 1994, NPS:*** This study helped the park define the desired visitor experience, prescribed interpretive media and facilities for achieving that desired condition, refined interpretive themes to improve visitor education, and proposed changes to visitor circulation patterns.
- ***Manassas National Battlefield Park Visitor Study, summer 1995, University of Idaho:*** This report summarizes the results of visitor surveys and helps the park refine visitor services, facilities, and interpretation.

PLANNING ISSUES/CONCERNS

INTRODUCTION

Several planning-related issues were raised by park staff and the public in meetings, newsletter responses, and discussions with staff from other agencies and organizations. Planning issues are derived from an examination of the full range of comments and ideas solicited from park staff, other agencies, special interest groups, and the general public during scoping. An understanding of the park mission and important planning issues helped the planning team develop potential management alternatives that respond to current and future resource and visitor experience conditions.

The following summary encompasses the full range of planning issues identified during scoping. The issues generally fall into two categories: comments most appropriately addressed by a GMP, and non-GMP issues, non-planning issues or those issues most appropriately addressed in other plans.

PLANNING ISSUES ADDRESSED IN THIS GMP

Orientation and Visitor Services

Manassas National Battlefield Park was the site of two key battles during the Civil War. However, the two Manassas battles continue to receive unequal interpretive treatment at the park. Visitation is concentrated at the visitor center on Henry Hill, the focal point of the events of First Manassas. Due in part to initial park boundaries that did not include much of the contested ground of Second Manassas, more limited interpretive efforts have been devoted to that battle. The addition of lands associated with Second Manassas offers the park the opportunity to present the full story of this battle.

Inadequate or antiquated interpretive media, a hazardous and complicated driving tour route, congested roads, and limited vehicular access have adversely affected the visitor experience and interpretation in the Park. Maintenance

and appropriate location of equestrian trails is also important to the community.

Historic Cultural Landscapes

Like many Civil War battlefields, Manassas National Battlefield Park is much more heavily wooded now than during the war. However, portions of the park still retain their wartime appearance. The continuity of agrarian patterns from the nineteenth century period of the two battles of Manassas through the twentieth century establishment of the park, as well as the fact that major road alignments (such as U.S. Route 29 and VA Route 234) generally follow their wartime alignments, have helped the park keep its Civil War era atmosphere.

Unfortunately, the heavy traffic on these present-day roads makes interpretation of some of the battle stories difficult and inhibits visitor appreciation of the historic battlefield landscape.

The 1988 boundary adjustments mandate cooperation with state and local governments to promote the preservation of views from within the park. The park has worked closely with nearby jurisdictions to protect these vistas. However, the continued rapid population growth in the Manassas area, accompanied by commercial and residential development typical of surrounding communities, intrudes on the historic setting of the battlefield. Such development already separates the battlefield from the area of the historic Manassas Junction and threatens eventually to disrupt historically significant views. The prospect of tall buildings on the periphery of the battlefield threatens the park's attempts to maintain a sense of place and contemplative atmosphere for visitors.

Traffic and Transportation

Two heavily traveled highways, U.S. Route 29 and VA Route 234, bisect the park and intersect in the heart of the battlefield. These two roads, known during the Civil War as the

Warrenton Turnpike and the Sudley Road, respectively, generally follow their wartime alignments and provide visitor access to much of the park. The current use of these roads as commuter and commercial truck traffic routes, conflicts with public safety and enjoyment of the park.

In the Manassas National Battlefield Park Amendments of 1988, Congress authorized 30 million dollars for a traffic study and subsequent highway construction to reroute commuter traffic away from the portions of U. S. Route 29 and VA Route 234 that traverse the park. Although construction monies have not been appropriated to date, monies were allocated for the Bypass Study, which examined candidate alignments for a bypass in the vicinity of the park, in order to reroute traffic off of these two roadways. The Federal Highway Administration and the National Park Service as co-lead agencies, and the Virginia Department of Transportation as a cooperating agency, have completed the public draft of the Bypass Study and has developed a preferred bypass alternative route.

This *Draft General Management Plan/Environmental Impact Statement* addresses internal transportation and circulation issues related to visitor experience, understanding, and safety, as well as resource protection. The proposed action alternatives presume a future where the Battlefield Bypass is in place, and park roads are closed to through traffic and are used primarily for park purposes.

Historic Structures and Sites

Both the Stone House and the Lucinda Dogan House were altered after the Civil War with additions as well as interior alterations. These two structures are the only two surviving wartime buildings to have been rehabilitated to their 1860s appearance. A third wartime building, the Thornberry House, named after the wartime owner and also known as the Sudley Post Office after the war, also underwent some alteration after the Civil War and has been rehabilitated for visitor use. Together, these three houses are the only surviving wartime buildings in the park.

The park's List of Classified Structures (LCS) includes 33 structures (buildings, roads, monuments, and a bridge).¹ The issue at hand involves determining the appropriate level of stabilization or rehabilitation for the surviving wartime buildings, as well as other historic structures. To the extent feasible, the surviving wartime buildings should be accessible to all visitors, including those with disabilities.

Trail Management

The park maintains an extensive network of pedestrian and bridle trails. Although the trails provide access to most points of interpretive interest, the size and complexity of the network has proved confusing to visitors. Bicycles are not permitted on trails or unpaved roads unless they are being used by trained, commissioned law enforcement personnel in performance of their duties. Adequate trail maintenance can be affected by funding levels for park operations that fluctuate annually. To the extent feasible, trails should be made accessible to visitors with disabilities.

Recreational Use

As the regional population grows, surrounding land is developed, and open space decreases, the park faces increased pressure to open the battlefield to active recreational uses. NPS *Management Policies 2001* (8.3) state that "the National Park Service will consider the park's purposes and the effects on park resources and visitors when determining the appropriateness of a specific recreational activity in a specific park.

"Unless mandated by statute, the National Park Service will not allow visitors to conduct activities that

- would impair park resources or values
- create an unsafe or unhealthful environment for other visitors or employees

¹ The LCS includes structures that have "historical, architectural, and/or engineering significance within parks of the National Park System in which the National Park Service has, or plans to acquire, any legally enforceable interest" (NPS 2004)

PURPOSE OF AND NEED FOR THE PLAN

- are contrary to the purposes for which the park was established or
- unreasonably interfere with
 - o the atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park;
 - o NPS interpretive, visitor service, administrative, or other activities;
 - o NPS concession or contractor operations or services; or
 - o other existing, appropriate park uses”

(NPS *Management Policies* 2001: 81).

In addition to any applicable state licenses and permits that may be required, a special-use permit from the park Superintendent is required for certain visitor activities, such as weddings, wreath laying ceremonies, and organized equestrian events. Meanwhile, the park treats some accepted activities, such as organized events, as special events and manages them according to the criteria and procedures of the *Special Park Uses Guideline* (NPS-53). Recreational activities such as picnicking and fishing (with a valid permit) are typically permitted in specified areas of the park, while swimming and the use of bicycles on unpaved roads are typically prohibited. These prohibitions and permissions change periodically, and are outlined in the annual *Superintendent's Compendium*.

Boundaries

The 1980 boundary legislation prohibits the Secretary of the Interior from changing the boundaries of the park. Unlike other units of the national park system that have legislative authority under Section 7 (c) of the Land and Water Conservation Fund Act of 1965 and the National Parks Omnibus Management Act of 1998 to enter into minor boundary adjustments, Public Law 96-442 specifically prohibits Manassas National Battlefield Park from arranging any boundary adjustments without legislation by Congress.

This planning process has identified several specific parcels of land outside of the legislative boundary that are of special

importance and cultural value to Manassas National Battlefield Park, that contribute to its historic battlefield landscape, and that meet NPS criteria for boundary adjustments (NPS *Management Policies* 2001: 25-26). These parcels of land are described under alternatives B and C as part of the proposals for each of these action alternatives.

Cooperative Efforts in Interpretation and Preservation

Some historic resources related to the Manassas battles lie outside park boundaries and face an uncertain future. Manassas National Battlefield Park recently expanded its National Register of Historic Places boundary to incorporate many of the historic sites and structures directly adjacent to the park. Expanded cooperation is needed between federal, state, and local agencies and private groups and organizations to help preserve and interpret these important Civil War resources. Specific partnership opportunities have not yet been explored for each action alternative.

Carrying Capacity

There are three principal components that relate to determining the carrying capacity for a national park:

- Ecological or physical capacity, which includes the capabilities of the natural and cultural resources to sustain levels of visitor use without unacceptable damage.
- Sociological carrying capacity, which includes the ability of visitors to enjoy and appreciate these resources without undue interference by other visitors.
- NPS management, which includes the efforts that have been, or can be applied to the park to mitigate unwanted impacts. This component relates to the management of things such as roads, parking lots, buildings, trails, and visitor information.

Table 1-2 summarizes the Desired Conditions, Indicators, and Standards that Manassas National Battlefield Park will use to ensure that the park stays within its carrying capacity. The park does not currently have a quantitative system for measuring carrying capacity, and

relies instead on qualitative observations about the use and crowding of various park resources.

Congested traffic on the portions of U.S. Route 29 and VA Route 234 that bisect the park influences carrying capacity, as well as the park's ability to measure that capacity. While visitation counts are taken at specific locations such as the visitor center or visitor contact Station, the overall number of non-park trips on these highways makes it difficult to obtain accurate visitation information for the park as a whole.

The difficulties posed by non-park traffic and limited staff availability make it difficult for the park to maintain a system of quantitative indicators and standards. Thus, many of the indicators and standards in Table 1-2 are constructed in a way that enables qualitative measurement by park staff as part of their ongoing duties.

With the exception of museum display, storage, and curation space, which are already

reaching capacity, Manassas National Battlefield Park does not presently approach its carrying capacity. This statement reflects the patterns of use observed by park staff in recent years.

The park does experience—and will continue to experience—limited occurrences of crowding at certain locations during certain times of the year. Specifically, the area near Stone Bridge tends to be crowded during fair-weather weekends in the spring and autumn. The park Superintendent deems this situation acceptable because such occurrences are rare, the entire park does not experience crowding, and no appreciable damage is done to natural and cultural resources.

The park will periodically review and, if necessary, update the indicators and standards described in Table 1-2. Should visitation (regardless of how it is measured) increase sharply, or if staff observe other activity that indicates a potential lack of capacity, the park may choose to implement more specific indicators and standards.

Table 1-2: Carrying Capacity Standards and Indicators

Visitor Experience and Services	Desired Condition	Visitors will be able to obtain park information, orientation, and services and will be able to access cultural resources and interpretive materials, exhibits, and sites without experiencing frequent delays. Museum space will be adequate to accomplish the park's interpretive goals.
	Indicator	The number of times per year that the visitor center, Stuart's Hill Visitor Contact Station, and major interpretive sites and parking lots (e.g., Stone Bridge, Henry Hill Brawner Farm) experience crowding and the magnitude of that crowding. The amount of space available for museum activities, including lab space and storage of park records and digital files.
	Standard	Visitors will experience crowded conditions a few times per year. These will occur primarily during the spring and autumn, and only at a limited number of locations such as Stone Bridge. During these peak periods, visitors will still be able to find uncrowded conditions in other areas of the park. The park will have museum space that is adequate to accomplish its interpretive goals.
Circulation and Parking	Desired Condition	Visitors should be able to follow the park's tour routes (via automobile or bicycle) and use the park's parking lots while experiencing no more than moderate traffic congestion and rare parking difficulties.
	Indicator	The number of times per year that tour routes and other park roads experience delays due to excess visitor traffic; the number of times per year that parking lots are full for an extended period of time. It is understood that, unless and until the portions of U.S. Route 29 and VA Route 234 that traverse the park are closed to non-park traffic, the park's ability to measure this indicator is limited. The current levels of non-park traffic on these routes mean that the park can only observe traffic on other park roads and can only observe parking crowding at lots not located along U.S. Route 29 and VA Route 234.
	Standard	Visitors will experience crowded conditions (heavy traffic congestion and a lack of parking) a few times per year. These will occur primarily during the spring and autumn, and only at a limited number of locations such as Stone Bridge. During these peak periods, visitors will still be able to find uncrowded road conditions and parking lots in other areas of the park.
Recreation	Desired Condition	Visitors participating in approved recreational activities will be able to enjoy the park's natural and cultural resources without causing damage to those resources.
	Indicator	Damage to natural habitats, cultural resources, interpretive materials, or historic landscapes due to activities such as horseback riding or picnicking.
	Standard	"Social trails"—undesignated trails created by repeated use—will not occur.
Park Operations and Maintenance	Desired Condition	The park will have adequate staff and resources to perform needed maintenance and management activities, and will do so without causing undue distraction to visitors.
	Indicator	The ability of staffing levels, maintenance facilities, resources, and supplies to meet park needs; the number and severity of visitor concerns and comments about operations and maintenance activities.
	Standard	Staffing and resources will not delay or prevent normal operation and maintenance activities; visitor concerns and comments about operations and maintenance activities will not increase in frequency or severity.

ISSUES IDENTIFIED THAT ARE NOT GMP-LEVEL ISSUES

During public involvement, from 1996 through 2003, issues were identified by the public that are not considered General Management Plan-level issues. These issues have been divided into two categories for the purposes of this plan: items that might be accomplished in other plans and items that are not planning issues.

The *General Management Plan* establishes a management philosophy for the battlefield and determines appropriate uses and conditions for park resources. Subsequent planning will address detailed design, operations, and maintenance issues. Issues identified by the public that might be addressed in other plans include

- treatment of specific park signs
- architectural/preservation treatments of specific structures
- management of equestrian trails and users
- interpretation specific to individual sites or techniques, such as living history
- transportation using shuttle buses

Items that are not considered planning issues and cannot be addressed by this plan include

- development and economic growth in the region and around the park
- restrictions on hunting outside of park
- enhanced volunteer programs
- links between the park and the historic city of Manassas

IMPACT TOPICS (RESOURCES AND VALUES AT STAKE DURING THE PLANNING PROCESS)

The Council on Environmental Quality guidelines for implementing the National Environmental Policy Act (NEPA) requires that the description of the affected environment must focus on describing the resources that could 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. Impact topics are resources of concern that could be affected, either beneficially or adversely, by the range of alternatives. These impact topics were identified based on federal laws and other legal requirements, the Council on Environmental Quality guidelines, National Park Service *Management Policies*, park subject-matter experts, 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 are reasons for dismissing specific topics from further consideration.

It should be noted that the exact footprints and locations of proposed development under the alternatives have not been fully developed at this time. Therefore, site-specific impacts will be evaluated and appropriate environmental compliance completed during the design stage. Similarly, acreage estimates associated with forest removal or scene rehabilitation under the alternatives are presented for comparative purposes only. Although these acreages are representative of the magnitude of change expected, some further refinement of the actual boundaries of the historic scene rehabilitation areas is likely to occur based on more precise field surveys.

The impact topics retained for detailed study are explained below.

NATURAL RESOURCES

Air Quality

The Manassas National Battlefield Park is within Virginia Air Quality Control Region VII, which is a nonattainment area for ozone. Section 118 of the Clean Air Act requires federal facilities to comply with all federal and state air quality standards and regulations, while Section 176 of the Act requires federal facilities to conform to state programs designed to attain and maintain those standards. The alternatives under consideration could have an affect on air quality because of the changes to the transportation patterns and use of the park roads; therefore, this document will study Air Quality in more detail.

The park's location in an air quality nonattainment area could also create opportunities for inter-agency cooperation and funding that could be used to alleviate both traffic and its associated noise.

Soundscape

National Park Service *Management Policies 2001* and Director's Order #47, "Soundscape Preservation and Noise Management" recognize that natural soundscapes are park resources and call for the National Park Service to preserve natural soundscapes. The existing commercial and commuter vehicular traffic at the park greatly influences the soundscape, negatively impacting the visitor experience; therefore, this document will study Soundscape Management in more detail.

Vegetation and Wildlife

The Manassas National Battlefield Park supports a wide array of plants and animals. The Organic Act and National Park Service *Management Policies 2001* both require the National Park Service to protect and conserve native plant and animal populations that could be affected by visitors or park actions. Changes

in plant populations and wildlife habitat could occur because of certain actions described for each alternative, such as the forest clearing and battlefield scene rehabilitation; therefore, this document will study Vegetation and Wildlife in more detail.

Many parks in developed areas also realize that, because their natural resources have been protected from development over time, they have become “islands” for many native species of plants and animals. This realization substantially broadens previous thinking about such parks as solely “cultural parks,” and is another reason to retain Vegetation and Wildlife as an impact topic.

Threatened, Endangered, and Rare Species and Natural Communities

The Endangered Species Act requires federal agencies to ensure their activities will not jeopardize existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. Consultation with the U.S. Fish and Wildlife Service and state resource agencies and past studies identified a number of species of special status. The alternatives under consideration could have an effect on listed species; therefore, this document will study Threatened, Endangered, and Rare species and natural communities in more detail.

Water Resources (Water bodies, Water Quality, Wetlands, and Floodplains)

The actions necessary to fulfill the management prescriptions proposed under the two action alternatives could potentially impact water quality, wetlands, stream bank stability, and floodplains. Proposed actions such as the removal of the U.S. Route 29 Bridge and the scene rehabilitation, and construction of a bridge over Bull Run are activities that would have impacts on water resources. Therefore, this document will study Water Resources in more detail.

CULTURAL RESOURCES

Cultural Resources (Historic Structures, Cultural Landscapes, and Archeological Resources)

The National Historic Preservation Act of 1966 as amended; the National Environmental Policy Act of 1969 as amended; Director’s Order 28, “Cultural Resource Management Guideline”; NPS *Management Policies 2001*; and Director’s Order 12, “Conservation Planning, Environmental Impact Analysis, and Decision Making” require the consideration of impacts on cultural resources. Actions proposed in this plan could affect archeological resources, cultural landscapes, historic structures, and museum collections and archives. Therefore, this document will study cultural resources in more detail.

Ethnographic resources, which are also considered cultural resources, are included among those topics dismissed from further consideration, as described in this chapter.

Museum Collections and Archives

The museum collections at Manassas National Battlefield Park embody a wide range of materials. The present on-site museum collections and archive facilities are nearing capacity. The anticipated growth of the collection will eventually necessitate more museum objects being stored off-site at the Museum Resource Center as well as a need for additional space to accommodate museum records and electronic media. Both of the action alternatives would affect museum collections and archives in the park. For this reason this document will study museum collections and archives in more detail.

TRANSPORTATION/TRAFFIC

The visitor experience at the park is adversely affected by the current traffic levels on U.S. Route 29 and VA Route 234. During public scoping, concerns were raised over the potential effect that the removal of the U.S. Route 29 bridge over Bull Run and controlled access at the other park entrances could have

PURPOSE OF AND NEED FOR THE PLAN

on emergency response. Safety associated with the transportation system is also considered under the transportation impact analysis. Therefore, this document will study transportation/traffic in more detail.

SOCIOECONOMIC ENVIRONMENT

The controlled access at park entrances along U.S. Route 29 and VA Route 234 would affect nearby residents and businesses. Therefore, this document will study the socioeconomic environment in more detail.

RECREATION

Improvements and additions to the hiking and bridle trails would have a beneficial impact on park recreation and expand recreational opportunities for visitors. Therefore, this document will study recreation in more detail.

VISITOR EXPERIENCE

Visitor experience was identified as an important issue that could be appreciably affected by the alternatives. The Organic Act and NPS *Management Policies 2001* direct NPS to provide enjoyment opportunities for visitors that are uniquely suited and appropriate to the resources found in the park, to the extent that such enjoyment does not constitute impairment or derogation of those resources. Visitor uses, access, orientation, and recreational activities are directly affected by the proposed alternatives; therefore, this document will study the visitor experience in more detail.

PARK OPERATIONS AND MAINTENANCE

The alternatives proposed in this plan could affect park operations, including changes in staffing, maintenance, and enforcement. Therefore, this document will study park operations in more detail.

IMPACT TOPICS DISMISSED FROM FURTHER ANALYSIS

The topics listed below would either not be affected or would be negligibly affected by the alternatives evaluated in this document. Therefore, these topics are briefly discussed in this section of the *General Management Plan* and then dismissed from further consideration or evaluation. Negligible effects are effects that are localized and immeasurable at the lowest level of detection.

SOILS, TOPOGRAPHY, AND GEOLOGY

The soils at the Manassas National Battlefield Park are primarily in the Arcola-Panorama-Nestoria general soils unit. Arcola silt loam and Arcola-Nestoria complex are the predominant soils. These are deep, moderately deep, and shallow soils that are well drained and have loamy subsoil. Soils in this general soils unit are largely used for the general crops in the area (Elder 1989). Topography of the park consists of gently rolling hills interspersed with narrow ridges and relatively small ravines. Generally, slopes range from 0 to 25 percent. Elevations range from approximately 325 feet along the ridges in the western portion of the park to about 130 feet along Bull Run.

The park resides in the Triassic basin of the Piedmont physiographic province in northern Virginia. This area is underlain primarily by calcareous siltstone and sandstone, metasiltstone, and intrusive diabase. Most of the diabase in the park is in the southwest and western sections and near Bald Hill. Bands of metasiltstone surround the diabase outcrops. Many of the northern Virginia Triassic region's rare plant species are associated with habitats underlain by diabase or metasiltstone. The remainder of the park is underlain by red siltstone of the Balls Bluff formation, which is well exposed along Bull Run. Soils derived from underlying bedrock have relatively high clay content and generally low to moderate permeability.

Under the proposed alternatives, negligible adverse impacts on soils, topography, or geology would occur because the proposed actions would not involve excavation or

grading that would result in a noticeable change to the terrain. There would be no topographic leveling or effects on scientifically important geologic formations or strata. The new visitor center, bridge, and access road on the east side of the park included in alternative C, and landscape rehabilitation proposed under the action alternatives would have impacts to soils and topography. However, based on the context of the park, the area of proposed disturbance is small and best management practices would be implemented in accordance with state guidelines to minimize soil loss during construction. Separate environmental analyses would be completed for each of these proposed actions. In addition, while changes to visitation patterns, trail use, and other changes to visitor activities would have adverse impacts from increased erosion with soil loss, these impacts would be negligible because the change in the areas of disturbance would be small. Therefore, Soils, Topography, and Geology were dismissed as impact topic.

PRIME FARMLAND SOILS

The purpose of the Farmland Protection Policy Act is to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure the federal programs are administered in a manner that, to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland" (7 U.S.C. 4201(b)). The Farmland Protection Policy Act is the primary responsibility of the Department of Agriculture, which has delegated implementation to the Natural Resources Conservation Service. A memorandum dated August 11, 1980 from the Council on Environmental Quality requires federal agencies to assess the effects of their actions on lands classified by the U.S. Department of Agriculture Natural Resources Conservation Service as prime and unique farmlands. Prime farmland is defined as land best suited for producing food, feed, forage, fiber, and oilseed

crops. The land could be cropland, pasture, rangeland, forest, or other land or water that has not been developed. Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops.

All soil types within the park are considered prime farm soils. There is no unique farmland within the park. Similar to soils, topography, and geology, no or negligible adverse impacts on prime farmland soils would occur from the proposed management prescriptions because the proposed actions do not involve significant excavation, grading, or change to the terrain. Therefore, Prime Farmland Soils were dismissed as an impact topic. If during future site-specific planning activities it is determined that more than 5 acres of prime farmland soils would be disturbed, the National Park Service would evaluate the potential impacts in accordance with the Natural Resources Conservation Service scoring system and would calculate a farmland conversion impact rating.

INDIAN TRUST RESOURCES

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed action by Department of the Interior agencies 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 Alaskan native tribes.

There are no Indian trust resources in the area of the Manassas National Battlefield Park. The lands comprising the park are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, Indian Trust Resources were dismissed as an impact topic.

ETHNOGRAPHIC RESOURCES

The National Park Service defines ethnographic resources 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” (DO 28, p. 191). Information about the Manassas National Battlefield Park’s ethnographic resources is quite limited. Although Native American artifacts have been found in the park, no ethnographic resources associated with specific Native American tribes or other ethnic descendants are known to exist in or in proximity of the park. No tribe or group of descendants currently uses the park for ethnographic purposes, and no contemporary tribe has ever been identified as having inhabited the park.

Historically, African-Americans lived in and around the park. Archeology has uncovered clues to the lives of enslaved African Americans at the middling plantations of Portici and Brownsville and of free African Americans at the Robinson House. The Robinson House, the Nash Site, and the Davis family occupation at the Thornberry House site all provide important insights into the struggles and achievements of life after the war, through Reconstruction, and into the Jim Crow era. The Robinson family and other descendant families currently have strong ties to the park. Some have shared their memories, stories, hand-drawn maps, and other oral traditions concerning their family histories and homesteads (NPS, 2004b). The proposed alternatives would have no to negligible impact on any resources associated with African-American ethnographic resources. Therefore, Ethnographic Resources were dismissed as an impact topic.

ENVIRONMENTAL JUSTICE

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations” directs federal agencies to identify and address, as appropriate, disproportionately high, and

adverse human health or environmental effects of their programs, policies, and activities on minority or low-income populations.

According to the 2000 U.S. Census figures, the minority community comprises between 17.2 and 31.1 percent of the population in the counties in the study area. The percentage of individuals living below the poverty line in the project area ranges from 2.8 percent to 7.8 percent, compared to approximately 9.6 percent of Virginia residents who live below the poverty line. No minority or low-income populations were identified within the study area, and there would be no disproportionate adverse impact to populations or communities. Therefore, Environmental Justice was dismissed as an impact topic.

LAND USE

The park is surrounded by lands under a variety of ownerships (both public and private). These lands are used for agricultural, business and commercial, residential, park and open space, and transportation purposes. The park's proximity to the greater Washington, D.C. metropolitan area and to growing areas of northern Virginia, have led to increasing commercial, residential, and other development, as well as more robust transportation facilities in the area surrounding the park.

The park remains an island of open space of historical, cultural, and recreational value within a part of northern Virginia that is becoming more and more suburban and urban in character. The basic land use of the park as a major cultural resource and open space area is in conformance with local land use plans. Because the proposed alternatives would not

change the park's basic use, there would be no conflicts with local land use planning.

In the case of alternative B, the land use change would be negligible because of the proximity of the existing visitor center to existing services in the area, as well as existing county zoning and land use restrictions. The relocation of the visitor center to the east side of the park in alternative C could have a localized impact on the land use of adjacent properties. However, only negligible impacts would be expected because the surrounding area is already quite built up commercially. Overall, the alternatives proposed would have negligible impacts on land use. Therefore, Land Use was dismissed as an impact topic.

PUBLIC HEALTH AND SAFETY

In general, the proposed alternatives would promote a healthier and safer environment for visitors. Overall, the rehabilitation of certain structures within the park would improve site accessibility and improve the health conditions of the facilities at the park. These benefits resulting from the proposed facility improvements and enhanced site accessibility are generally small in scale and site-specific in nature.

In general, the proposed alternatives would have an overall beneficial impact. No actions identified in this GMP would have adverse safety or health concerns. Therefore, Public Health and Safety was dismissed as an impact topic. Safety-related issues and emergency response related to the transportation improvements are discussed in the transportation impact analysis.

The Alternatives



THE ALTERNATIVES

INTRODUCTION

Many aspects of the desired future condition of Manassas National Battlefield Park are defined in the establishing legislation, the park's purpose and significance statements, and the servicewide mandates and policies that are described in the "Purpose of and Need for the Plan" chapter. Within these parameters, the National Park Service (NPS) staff solicited input from the public, NPS staff, government agencies, and other organizations regarding issues and desired future conditions for Manassas National Battlefield Park. Planning team members also gathered information about existing visitor use and the condition of facilities and resources.

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

Management prescriptions are descriptions of desired conditions for park resources and visitor experiences in different areas of the park. Management prescriptions are determined for each national park system unit to identify the widest range of potential appropriate resource conditions, visitor experiences, and facilities that fall within the scope of the park's purpose, significance, and special mandates. Five management prescriptions have been identified for Manassas National Battlefield Park.

Each of the alternatives in this general management plan has a different comprehensive management concept. These management concepts describe how the park would be managed, and how the park's management prescriptions would be applied to support the concept. The combination of concept and application of management prescriptions gives an overall picture of park management under a given alternative.

FORMULATION OF ALTERNATIVES

This *Draft General Management Plan/Environmental Impact Statement* presents three alternatives. The alternatives focus on what resource conditions and visitor uses are desired for Manassas National Battlefield Park, rather than on how these conditions will be achieved. Desired future conditions provide a long-term framework for making management decisions. Strategy-level decisions for implementation are generally much more short-lived. Strategy opportunities often depend upon variables of funding availability leading to variation in implementation. Thus, the alternatives do not include specific implementation strategies for resource or visitor use management. The alternatives for Manassas National Battlefield Park directly respond to the major planning issues identified by the public, park staff and other interested parties.

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

Over the life of this plan the park may be able to consider actions not analyzed in the EIS, e.g., moving all interpretation of Second Manassas to an expanded facility at Brawner Farm. Before any actions were initiated park management would determine if the actions were consistent with the rationale of the management approaches adopted in this plan and if the actions would assist the park in achieving desired future conditions articulated in the plan. If park management determined that the proposed action would be consistent with the rationale of the GMP all necessary compliance would be completed at that time.

Among the three alternatives developed through this plan, alternative A is the “no-action” alternative, which presents a continuation of existing management direction. It is included as a baseline for comparing the consequences of implementing the two “action” alternatives—alternatives B and C. These action alternatives present different ways to manage resources and visitor use and improve facilities and infrastructure at Manassas National Battlefield Park. Both assume the completion of the Manassas National Battlefield Park Bypass, which would remove commuter and heavy truck traffic from the portions of U.S. Route 29 and VA Route 234 that run through the park.

IDENTIFICATION OF THE PREFERRED ALTERNATIVE

Manassas National Battlefield Park is an unusual site in that two major Civil War battles were fought on virtually the same ground thirteen months apart in 1861 and 1862. Since the conclusion of the war, most Americans have focused on the first battle for a number of reasons. It was the first major land battle of the war. It was the largest battle involving American troops up to that date. A large group of spectators came out from Washington, DC to watch the spectacle. Thomas “Stonewall” Jackson received his *nom de guerre* on the battlefield. On a more sobering note, some 900 individuals lost their lives in the fighting.

While First Manassas has always drawn more attention and interest, the battle of Second Manassas was equally important. Unlike the first battle, in which nearly all of the soldiers were raw recruits ignorant of the realities of warfare, the second battle was fought by more seasoned veterans who understood the harsh nature of battle. These soldiers also were much more efficient killing machines, who exacted a much higher price for their efforts—nearly 3,200 were killed in the second battle. Second Manassas was also one of the earliest engagements in which the Confederates were led by General Robert E. Lee. Many historians believe his leadership turned Second Manassas into one of his greatest tactical victories of the

war. Lee’s stunning success emboldened him to lead his army into the North, where he was repulsed less than three weeks later.

Park staff long has recognized that for a variety of reasons, Second Manassas has received less emphasis. The Park’s *Interpretive Prospectus* (1994) points out that “the fact that Manassas Battlefield contains the sites of two separate battles covering some of the same ground makes clear interpretation of both battles very difficult. Traditionally, the park’s interpretive program has emphasized First Manassas at the expense of the Second Battle of Manassas.”

The same report found that less than 8% of all park visitors even started the Second Manassas Driving Tour (fewer than 1% finished it). To solve this “identity crisis” for Second Manassas, the *Prospectus* calls for “an easily identifiable and accessible ‘focal point’ to begin the interpretation of Second Manassas.

Alternative B’s comprehensive approach to interpreting *both* battles will enable visitors to grasp the evolution of this conflict from the first battle, which many supporters and participants on both sides thought would be quick and easy victory, to the second battle, which those same people now recognized was part of a long, and very deadly affair. Selecting alternative B as the preferred alternative for the future development and management of the park will facilitate and deepen visitor understanding of the Civil War, and of the importance of both of the battles that occurred at Manassas. Alternative B will also help visitors understand how Civil War battles were literally fought in the front yards of residents, not an uncommon occurrence in mid-1800s warfare. Park patrons will be able to place these battles in the context of the entire war—including the important battles that occurred elsewhere between First and Second Manassas, as well as subsequent battles such as Antietam.

Implementation of alternative B will give visitors a much better understanding of the battles of Manassas. In addition to an immersion in the strategies, tactics, troop movements, and the wise and unwise military decisions by the commanders, visitors will leave the park

with a much better understanding of the fundamental role that the Civil War played in American history.

MANAGEMENT PRESCRIPTIONS

Management prescriptions influence the management of park resources by specifying the range of desired visitor experiences, desired cultural and natural resource conditions, and appropriate kinds of activities and facilities necessary to achieve those goals in designated areas of the park over time. Applying these prescriptions to the park's specific geographic areas creates the range of viable alternatives required by the planning process. Alternative A, the no-action alternative, would maintain current management practices, and is also required by the planning process. Table 2-1 summarizes the management prescriptions proposed for Manassas National Battlefield Park.

Visitor Experience/Services Prescription

This prescription represents areas in the park where visitors would encounter a high concentration of activity, services, interpretation, and orientation. The areas are developed more intensely, but remain protected from intrusive effects of modern development and incompatible activities. Hiking and equestrian trails would be included under this prescription.

Natural and Cultural Resource Conditions. Natural resources would be actively managed to accommodate intense visitor use for interpretation, education, and visitor services. The management emphasis in areas under this prescription would include minor modifications to facilities to better preserve resources. The historic natural and cultural landscapes would be safeguarded in a way that preserves the integrity of historic views and vistas. Modern additions to the landscape would be permitted but designed to complement the historic and natural context.

Visitor Experience/Appropriate Facilities Conditions. Visitors to these areas would experience a high-degree of social interaction. Buildings, structures, and signs of people

would be predominant. Facilities would be convenient and accessible with little need for visitors to make large time commitments. Major visitor and administrative facilities would be expected to be found in this area. Orientation and interpretation would be provided through a variety of formats. Visitor support facilities such as contact stations, museums, interpretive media, bookstores, parking areas, comfort stations, benches, picnic tables, water fountains, sidewalks, and walking, hiking and equestrian trails would be present in this area.

Cultural Landscape Rehabilitation/Preservation Prescription

This prescription rehabilitates cultural and natural resources (including historic buildings, structures, and landscapes) to conditions representative of the Civil War period essential for visitor understanding or in-depth interpretation of the battles. Modern elements may be present in this prescription, but do not distract from the cultural landscape. Management of visitor activities, interpretation sites, historic structures, and trails would ensure resource protection and preservation in this prescription.

Natural and Cultural Resource Conditions. Cultural and natural resources would be rehabilitated to conditions representative of the Civil War time period. Resource and viewshed preservation and protection are the primary focus. While the sight and sounds of people are evident, the impact to resources is low. Modern elements may be present in this prescription, but would not distract from the natural and cultural landscape.

Visitor Experience/Appropriate Facilities Conditions. Through self-guided or ranger-led experiences, the visitor would learn about major park resources and events. Structure and direction would be provided but some opportunities for discovery would exist. At certain times of the day or season, opportunities for solitude exist, but in general there are likely to be encounters with other visitors. Visitors would need to make a moderate time commitment to experience the resources. Trails,

overlooks, wayside exhibits, small parking areas, paved driveways, and other interpretive media would be found in this area. Predominant activities would include walking, viewing resources, and attending interpretive walks and talks. Special events and activities would be allowed by permit only.

Motorized Sightseeing/Park Circulation Prescription

This prescription applies to areas that provide scenic, visually appealing natural and cultural backdrops for motorized touring and circulation in the park. Visitors could experience this prescription by vehicle or bicycle, while driving along well-maintained roads in a linear/sequential nature and making frequent stops at interpretive exhibits. Some alteration of resources (road paving or the felling of trees that pose hazards to visitors) may be necessary to facilitate visitation and park operations.

Natural and Cultural Resource Conditions. Areas falling under this prescription would be intensely managed to ensure resource protection and public safety. Areas in this prescription provide a scenic, visually appealing natural and cultural backdrop for motorized park touring and circulation. Resources would be modified for essential visitor needs and park operations and maintenance. Motorized sightseeing would occur along existing roadways and would be nonintrusive.

Visitor Experience/Appropriate Facilities Conditions. This area would include paved roadways and associated development used for touring the park, enjoying scenic overlooks, and stopping to visit roadside interpretive media. Visitors would be heavily dependent on vehicles or bicycles and would use a well-maintained road for sequential or linear touring. Visitors would observe the natural and cultural environment and have some opportunities for self-discovery.

The probability of encountering other visitors would be high. The area would include paved roadways, pullouts, overlooks, short trails, parking areas, and other visitor facilities that support touring. Roadway design and speed

limits would be adjusted in this prescription to safely accommodate both cars and bicycles making frequent stops. This prescription would also include park entrance facilities and associated visitor service areas.

Recreation Prescription

This prescription represents areas in the park where visitors would be able to picnic in large groups and enjoy approved recreational activities. Visitor amenities such as picnic tables, restrooms, and parking would be present. Interaction with cultural and natural resources is secondary in this prescription.

Recreational activities such as picnicking and fishing (with a valid permit) are typically permitted in specified areas of the park, while swimming and the use of bicycles on unpaved roads are typically prohibited. Special events/activities are typically allowed by permit only. These prohibitions and permissions change periodically, and are outlined in the annual *Superintendent's Compendium*.

Natural and Cultural Resource Conditions. Under this prescription, resources, facilities, and amenities may need modifications to accommodate large groups of visitors. The prescription would be sited in such a way as not to interfere with historic views and vistas and cultural landscapes. Visitors, facilities, and resources would be intensely managed in this prescription.

Visitor Experience/Appropriate Facilities Conditions. Visitors would experience recreational opportunities and social interactions with some interpretive opportunities. Natural and cultural resources would provide a visual backdrop within this setting with human interactions predominant. Visitor support facilities would be convenient and accessible. Facilities and visitor amenities would accommodate large group picnics and associated and approved recreational activities. Visitor amenities would include picnic tables, restrooms, and parking.

Park Operations and Maintenance Prescription

This prescription meets the essential operational and maintenance needs of the park. Management of activities and facilities in this prescription would focus on limiting visual, auditory, or olfactory impacts to park resources and visitor enjoyment.

Natural and Cultural Resource Conditions.

This prescription would be located in areas that would minimize intrusions on the historic views/vistas and areas of high visitor use. The areas are generally small, with intense resource manipulation to meet operational needs. As

such, they may include minor to major modifications to existing facilities, amenities, and resources to accommodate changing operations and maintenance needs.

Visitor Experience/Appropriate Facilities

Conditions. Because this area would be dedicated to park operations and maintenance needs, visitors would be discouraged. Areas falling under this prescription would have essential facilities, structures, and equipment to meet the operations and maintenance needs of the park. Activities and facilities in this prescription may intensely limit visitor enjoyment and affect the visual, audio, olfactory experience of the park.

Table 2-1: Management Prescriptions

	Natural & Cultural Resource Conditions	Visitor Experience/ Appropriate Facilities Conditions	Representative Activities
Visitor Experience/Services	- Minor modifications to existing facilities, amenities and resources - Modern additions to the landscape are permitted, but do not distract from the historic and natural context - Located in such a way as not to intrude on historic views/vistas of the cultural landscape	- Orientation and interpretation occurs in this area through a variety of formats - Buildings, structures, and signs of people are predominant - Cultural and natural resources are present - Facilities are convenient and accessible; there is little need for visitors to make a large time commitment to see the area - Social interaction with others is likely	- Major visitor and administrative facilities are found in this area - Visitor support facilities such as contact stations, museums, interpretive media, bookstores, parking areas, comfort stations, benches, picnicking, walking trails, and bridle trails are present - Orientation and interpretation provided through various formats
Cultural Landscape Rehabilitation/Preservation	- Cultural and natural resources are rehabilitated (including buildings, structures, and landscapes) to conditions representative of the Civil War time period, and are essential for visitor understanding and in-depth interpretation of the battles - The sights and sounds of people are evident in limited amounts - Resource protection and preservation are the primary focus - Except for essential changes, tolerance for resource impacts is low. - Modern intrusions are not evident	- Emphasis on in-depth learning about and visitation of important park resources - Experiences are primarily self-guided or ranger-led - Structure and direction is provided through trails, interpretive media, and signs, but opportunities for self-discovery exist - Visitors need to make a moderate time commitment to experience resources - Opportunities for solitude exist at certain times, but there are likely to be encounters with other visitors	- Trails, overlooks, wayside exhibits, small parking areas, driveways, and interpretive media are found in this area - Predominant activities include walking, viewing resources and attending interpretive tours. - Special events/activities are allowed by permit only
Motorized Sightseeing and Circulation	- Areas in this zone provide a scenic, visually appealing natural and cultural backdrop for motorized park touring and circulation - Areas in this zone are managed to ensure resource protection and public safety - Resources may be modified for essential visitor and park operational needs. (e.g. paving roads or felling hazard trees)	- Paved roadways and associated developments are used for touring the park, enjoying scenic overlooks, and stopping to visit roadside interpretive media - Visitor experience is generally dependent upon automobile or bicycle involves driving or riding along a well maintained road, and is linear in nature - Observing the natural/ cultural environment is important, and a sense of discovery is part of the experience - The probability of encountering other visitors is high	- Motorized sightseeing occurs in a nonintrusive way throughout the park, primarily on existing roadways - The area includes paved roadways, pullouts, overlooks, associated short trails, parking areas, and other facilities that support visitor touring - Roadway design and speed limits are adjusted in this zone to safely accommodate cars and bicyclists, and frequent stops - This area includes park entrance facilities and associated visitor service areas
Recreation	- Area has minor modifications to existing facilities, amenities, and resources to accommodate large groups of visitors - Facilities are located in such a way as to not interfere with historic views/vistas of the cultural landscape	- Visitor experience is focused on recreational and social interaction with some interpretive opportunities present - Natural and cultural resources provide the visual backdrop within this setting with predominant signs of other visitors - Visitor support facilities are convenient and accessible	- Facilities present to accommodate large group picnics and approved recreational activities - Visitor amenities include picnic tables, restrooms, and parking - Approved recreational activities and picnicking would occur in this zone - Special events/activities are allowed by permit only
Park Operations and Maintenance	- Area has minor modifications to existing facilities, amenities and resources to accommodate changing operational needs - Located in areas that minimize intrusions on the historic views and vistas and areas of high visitor use	- Area is dedicated to park operational and maintenance needs - Visitors are discouraged from entering these areas	- Zone includes essential facilities, structures and equipment to meet operational and maintenance needs of the Park - Activities and facilities in this zone mitigate visual, auditory, or olfactory impacts to park resources and visitor enjoyment

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO ACTION)

CONCEPT

This no-action alternative consists of a continuation of current management direction and trends at Manassas National Battlefield Park, and serves as a baseline measurement for comparing the resource conditions and visitor experiences prescribed by the two alternative concepts. The existing conditions, trends, and management practices would be maintained with only minor changes in the no-action alternative. Managers would continue to follow the special mandates and servicewide mandates and policies described in the “Purpose of and Need for the Plan” chapter. The current, most recognizable features in the park would continue to serve as the primary focus for visitor use and interpretation. Orientation and visitor services related to both battles would continue to be offered at a single, centralized location. Map 2-1 depicts the cultural and historic elements of alternative A.

Under this alternative, historical park uses and development patterns would continue in accordance with the 1983 *General Management Plan*. The main roads within the park (U.S. Route 29 and VA Route 234) would remain open to commuter and truck traffic. Current facilities at the park would be maintained, upgraded, and rehabilitated as needed. Some changes would be made to visitor use patterns to improve access to those lands added to the park since the 1983 plan was completed (e.g., Brawner Farm and Stuart’s Hill tracts).

Opportunities for visitors to explore the park would be different for each battle. Visitor use would be concentrated in a central area at Henry Hill, with a smaller visitor contact station on Stuart’s Hill. Heavy volumes of commuter and commercial truck traffic would continue to impede the interpretation of Second Manassas. However, the park would devote equal time and facilities to both battles. Visitors would visit the sites of First and Second Manassas by auto tour and hiking trails.

Alternative A would present visitors with a battlefield landscape that would be characteristic of the area’s rural past but that would fail to capture the nuances of the wartime landscape that shaped the strategies, decisions, and events of the two battles. Only small components of the altered historic landscape would be rehabilitated. Visitors would learn about the historic landscape through interpretive displays and programs. Structures built before the park’s creation in 1940, and especially wartime structures, would be preserved. Some postwar structures would mark the sites of wartime buildings. Map 2-2 shows the circulation and interpretation features of alternative A.

MANAGEMENT ZONES

The 1983 GMP indicates that “the park is on the National Register of Historic Places and is therefore zoned as historic.” As a result, the 1983 GMP defined three management subzones for the park. The park would retain these subzones in alternative A. The subzones, as described by the 1983 GMP, include:

Battlefield Rehabilitation Subzone²

“The rehabilitation subzone will encompass the core area of historic resources important for interpreting the battle stories. The size and character of this subzone is determined by the locations of visitor use and development areas. Significant resources in this subzone include the historic battlefield landscape and several historic structures.

“The level of historic structure rehabilitation or preservation in each subzone will be based on architectural integrity and significance ...New or existing facilities that are not directly related to historic preservation and Civil War interpretation will not be allowed in this subzone unless the property is privately owned or serves a protection function.”

² The 1983 document’s use of the word “restoration” corresponds to this document’s use of the word “rehabilitation.”

Preservation Subzone

“Within this subzone, all historic structures will be preserved at levels commensurate with their significance and integrity, and those sections of the landscape that have already been restored will continue to be maintained.

“Within this subzone, recreation, visitor use, and park operations facilities can be provided, but the importance of the historic resources will still remain paramount in any considerations for development.”

Protection Subzone

“This...subzone along the outer perimeter of the park...is critical for protecting the quality of the visitor’s experience and the present integrity of the core historic resources from outside intrusions. On parklands within this protection subzone, vegetation will be allowed to grow into forest where lands within the two other subzones need special protection. Otherwise, the landscape will be preserved in its existing condition. Historic structures will be preserved at a level commensurate with their integrity and significance.

ORIENTATION AND VISITOR SERVICES

Visitor Center

The Henry Hill Visitor Center would remain as the primary center of interpretation for First Manassas and the first contact/orientation site for park visitors. The level of visitor use would be high. The visitor center would include visitor services and would retain its current parking area. At the Henry Hill Visitor Center, visitors would receive initial information, orientation, and interpretation. The visitor center would also be the starting point for the two battlefield tours.

First Manassas Tour

Visitors would primarily experience the resources of First Manassas through the one-mile Henry Hill Loop Trail, a self-guiding interpretive tour. The First Manassas Tour

(hiking trail) is a longer trail that connects several interpretive sites. These trails present the story of First Manassas in a way that helps visitors understand and study battle events on-site. The function of the First Manassas Trail would be to provide visitors with a relatively easy way to experience the many resources on Henry Hill.

The hiking trail for the First Manassas Tour is approximately five miles long. The function of the First Manassas Tour would be to provide visitors opportunity to develop a fuller understanding of the battles while providing them with solitude and a sense of discovery. The hiking trail would receive low levels of visitor use, and would follow existing trails. Visitors using this trail would be able to understand the events of the battle, and could visit the historic sites of First Manassas such as Henry Hill, Portici, Stone Bridge, Van Pelt Hill, Pittsylvania, Matthews Hill, and Stone House.

In addition to the tour and trails, visitors could also drive to several of the important interpretive sites. These interpretive areas would receive low to moderate levels of visitor use and would include a parking area, interpretive displays, and in some areas, a short loop trail. These interpretive areas would include sites such as the Stone Bridge, Sudley, Matthews Hill, Stone House, Chinn Ridge, and Portici.

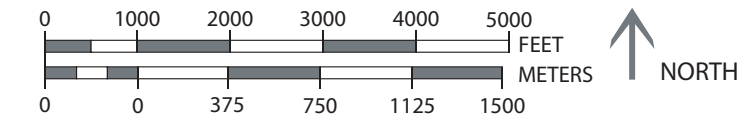
Second Manassas Tour

Visitors would continue to use the chronological driving tour to visit the sites of Second Manassas. The tour route and the sites it connects would receive low to moderate levels of use. A small parking area, interpretive displays, and a short loop trail would be provided at the tour stops. A new tour stop at and access to Brawner Farm would use a new access road and parking lot currently being implemented. The environmental assessment (EA) for the Pageland Lane road and site development for Brawner Farm (including a new parking area) has been completed, and a Finding of No Significant Impact (FONSI) has been issued.

SYMBOL KEY

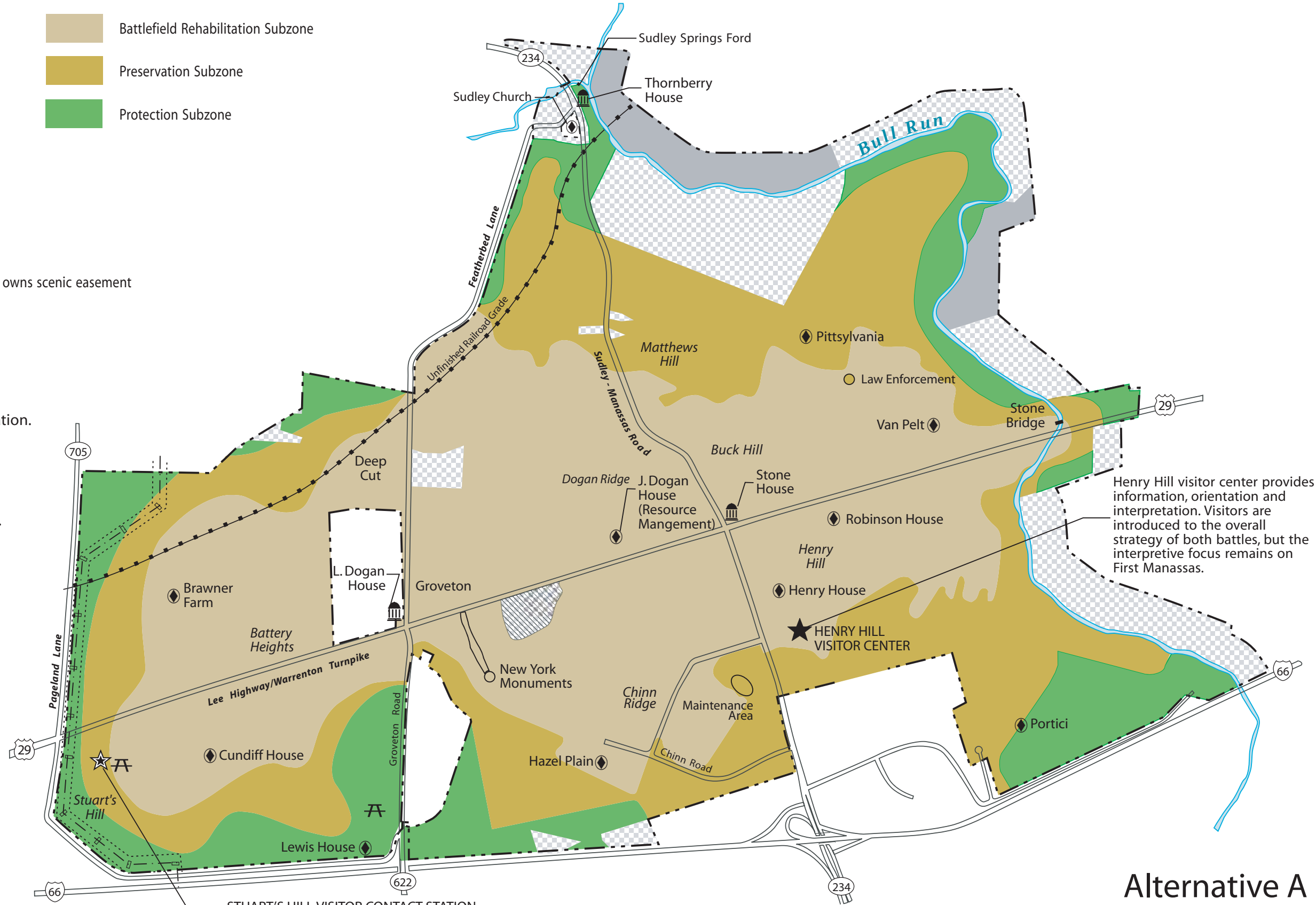
- National Battlefield Park Boundary
- Picnic area
- Preserved war time structure (structures would be upgraded for visitor use)
- Visitor center
- Visitor Contact Station and Park Headquarters
- Historic House site
- Other Significant Site
- Unfinished Railroad Grade
- Non-NPS public land within park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned land outside park boundary
- Power line easement

- NOTES:
- Orientation and visitor services for both battles would be carried out from a central location.
 - First Manassas would continue to receive greater visitor attention, although the Park would continue to devote equal time and facilities to both battles.
 - Visitors would gain an understanding of both battles by visiting the many sites of each battle.
 - Only small components of the altered historic landscape within the rehabilitated subzone would be rehabilitated.



MANAGEMENT SUBZONES

- Battlefield Rehabilitation Subzone
- Preservation Subzone
- Protection Subzone



Alternative A
No Action

Cultural and Historic Landscape Map

The existing Battery Heights tour stop and parking area on U.S. Route 29 would be removed. Other sites connected by the route include Stone House, Matthews Hill/Dogan Ridge, Sudley, Unfinished Railroad, Deep Cut, Groveton, the New York Monuments, Hazel Plain, Portici, and Stone Bridge, a total of 11 stops.

The hiking trail for Second Manassas is approximately six miles long. Visitors would experience the resources of Second Manassas through hiking trails and the existing auto tour route. The Second Manassas hiking trail and Stuart's Hill Loop Trail would provide visitors with an opportunity to develop a fuller understanding of the battle.

The hiking trail would follow existing trails. There would be relatively low levels of visitor use. The trail would begin at the Henry Hill Visitor Center and connect resources of Second Manassas such as the Stone House, Dogan Ridge, the Unfinished Railroad, Deep Cut, Brawner Farm, Groveton, New York Monuments, Chinn Ridge, and Henry Hill. A visitor contact station would continue to operate seasonally at Stuart's Hill. The functions of the visitor contact station would be to orient visitors to the park and Second Manassas and to interpret the resources of Second Manassas with emphasis on Stuart's Hill and the Brawner Farm area. The area would receive moderate use. The contact station would contain interpretive exhibits and visitor services. The self-guided Stuart's Hill Loop Trail would begin at the visitor contact station and connect the resources of Stuart's Hill, Brawner Farm, and the Cundiff and Lewis House sites. The trail would receive moderate use.

CULTURAL LANDSCAPE REHABILITATION AND PRESERVATION PRESCRIPTION

Alternative A would maintain the current pattern of open fields and wooded areas and would continue to attempt to recreate the 1861-1862 scene as was recommended in the 1983 General Management Plan. All or a proportionately greater percentage of the park

could be rehabilitated to the historic scene if funding became available to accomplish this work. Vegetative buffers would be developed to screen the power lines and development outside the park.

Historic structures and features that date from the battles (Stone House, Thornberry House, L. Dogan House, Unfinished Railroad), or that are important elements of the park's interpretive focus (Brawner Farm, Henry House, J. Dogan House, Robinson House ruins) would be the top preservation priority.

The Fiscal Year 2005 construction budget for Manassas National Battlefield Park included \$1.92 Million for the rehabilitation of Brawner Farm. This rehabilitation would strengthen the structure itself, and will provide new vehicular access and parking facilities. This would allow Brawner Farm to accommodate the visitation generated by the park's driving tour and interpretive trails.

TRANSPORTATION AND CIRCULATION

Heavy commuter traffic during morning and evening rush hours and heavy commercial truck traffic related to quarry operations outside the park put extremely high traffic loads at all hours of the day on the portions of U.S. Route 29 and VA Route 234 that run through the park. This situation results in truck and car accidents and seriously encroaches upon park visitor safety and overall experience.

Through the Bypass Study, the Federal Highway Administration and National Park Service worked with the Commonwealth of Virginia and nearby jurisdictions to study the feasibility of relocating through traffic to routes outside the park. Once constructed, bypass would remove commuter traffic from the portions of U.S. Route 29 and VA Route 234 that run through in the park. Until completion of the bypass, the current traffic situation would likely continue to compromise park resources and visitor experience. Alternative A does not assume the presence of a finished Battlefield Bypass.

The park does not currently issue licenses for commercial tours of the park, and does not plan to issue such licenses in alternatives A, B, or C.

PARK OPERATIONS AND MAINTENANCE

Alternative A would not alter current park functions. All park functions would continue to occur in their current locations. Current staffing levels of 32 full time employees would be maintained, with minor adjustments over time to accommodate changing park needs.

BOUNDARY ADJUSTMENTS

In alternative A, there are no proposed boundary adjustments given the current legislation prohibiting such adjustments without legislative action.

ESTIMATED COSTS

The Fiscal Year 2004 base operating budget for Manassas National Battlefield Park was \$2,526,500. This cost should be used for comparison purposes against alternatives B and C. Please see appendix D for cost comparisons.

ALTERNATIVE B (NPS-PREFERRED ALTERNATIVE) THE TWO BATTLES OF MANASSAS—A COMPREHENSIVE UNDERSTANDING OF EACH BATTLE

CONCEPT

Alternative B proposes a future condition at the park that focuses on interpreting the two battles of Manassas as distinct military events. Visitors would gain a thorough understanding of the first and second battles by visiting two separate visitor contact areas, each focused on one battle. These primary interpretive sites, including a visitor center and a visitor contact station, would be the two main focal points of visitor services in the park. Visitors could explore the many historic sites associated with each event throughout the park. Separate, chronological, sequential auto and bicycle tours would be developed for each battle. In this alternative, the rehabilitation of the historic landscape would be critical to enable visitors to understand the events and military tactics associated with each battle. Because of the safety concerns posed by the high traffic volumes on U.S. Route 29 and VA Route 234, separate auto/bicycle tour routes could not be implemented until the completion of the Battlefield Bypass.

Overall visitor experience and safety would also be enhanced by the construction of the Manassas National Battlefield Park Bypass. This road would permit the elimination of heavy commuter and commercial truck traffic on the portions of U.S. Route 29 and VA Route 234 that run through the park. The U.S. Route 29 bridge over Bull Run would be removed, and through traffic will be further limited with the addition of controlled access facilities at the park's three remaining major entry points. Alternative B assumes the presence of a finished Battlefield Bypass.

Map 2-3 depicts the cultural and historic elements of alternative B, while Map 2-4 shows the circulation and interpretation elements. Visitors would experience a battlefield landscape that resembles its wartime appearance. Key interpretive views would help visitors understand how the battles unfolded and the importance of certain locations.

Wartime structures would be preserved and other historic structures would be retained to mark the site of wartime buildings.

ORIENTATION AND VISITOR SERVICES PRESCRIPTION

In alternative B, visitors would experience the battlefields in settings that are characteristic of the wartime scene. They would experience the two battles as distinct military events, starting at separate orientation points, followed by visits to the many other historic sites associated with each event. The existing visitor center at Henry Hill would orient visitors to both battlefields, but would concentrate primarily on First Manassas. The Second Manassas Visitor Contact Station would remain in its current location at Stuart's Hill.

First Manassas Visitor Center

In alternative B visitors would be encouraged to begin their visit at the Henry Hill Visitor Center. The Henry Hill Visitor Center would function as an orientation center for the park as a whole, the primary orientation site for First Manassas, the initial stop for the First Manassas Auto/Bicycle tour, and the beginning and ending point of the First Manassas Hiking Trail. As the primary entry point to the park, Henry Hill would be the visitor's first point of contact with the park staff.

This facility would accommodate a high level of visitor use. Interpretive media, museum collections, and visitor amenities would be concentrated in the visitor center. The interpretive materials at the Henry Hill Visitor Center would focus on the overall importance and strategy of First Manassas, but general park materials would also be available. A self-guided loop trail would take visitors to Henry Hill to experience the battlefield resources. For a greater understanding of the entire battle, an auto tour and bicycle route, as well as

a self-guided hiking trail, would begin at Henry Hill and connect the resources of First Manassas.

First Manassas Automobile/Bicycle Tour Route

Under alternative B the National Park Service would develop a new First Manassas Automobile and Bicycle tour route. The tour route would help visitors develop a more thorough understanding of the events and stories of First Manassas by visiting important battlefield resources. The self-guided tour route would follow the flow of the battle by chronologically interpreting connected sites such as the Stone Bridge, Sudley Church, Matthews Hill, Henry Hill, Chinn Ridge, and Portici. Short loop trails would encourage visitors to leave the main tour route to experience the resources up close. Interpretive displays along the trails would illustrate the events and stories of the battle.

The park brochure and other media such as an audiotape would explain the route and the first battle. The tour route would use existing roads, trails, and follow wartime routes where possible. No new roadways or trails would be developed for the tour route. The function of the tour stops would be to provide visitors with the general flow of the battle and some information on that specific conflict. The tour stops would receive moderate visitor use and include small parking areas and interpretive displays.

Alternative B does not include the development or implementation of an alternative transportation system to move visitors throughout the park. However, future development of such a system would not be inconsistent with this alternative. A shuttle system or other transport options that would allow visitors to leave their personal vehicles and tour in larger groups could be explored. Current visitation levels make it difficult to support such a system on a continued basis. If future visitation levels dramatically increase, and it becomes feasible and desirable to develop a park shuttle system, a transportation

study to analyze several transit options would be prepared.

First Manassas Hiking Trail

The location of the First Manassas hiking trail would remain largely unchanged, and would continue to provide visitors with the opportunity to experience the battlefield on foot. The self-guided hiking trail (approximately 5 miles) would link the resources of First Manassas, such as Stone Bridge, the Van Pelt House site, Pittsylvania, Matthews Hill, Stone House, and Henry Hill. Wayside exhibits would interpret the resources and stories along the trail. The hiking trail would also continue to connect to some of the smaller loop and spur trails, which are designed to be primarily accessed from the First Manassas automobile/bicycle tour route. The National Park Service would upgrade current trails and interpretive media on the First Manassas Hiking Trail as necessary.

Second Manassas Visitor Contact Station

Visitors would receive a brief orientation to the park at the Henry Hill Visitor Center. Visitors specifically interested in the Second Battle of Manassas would then be directed to the Second Manassas Visitor Contact Station for more detailed orientation and information. The current visitor contact facility at Stuart's Hill would serve as the Second Manassas Visitor Contact Station.

To accommodate the year-round visitation associated with that role, the Stuart's Hill facility would be upgraded and fully staffed. Upgrades would include an improved access road and parking facilities and additional space for displays and exhibits. The Second Manassas Visitor Contact Station would contain a limited amount of interpretive media and museum items relevant to the second battle, as well as basic visitor services (information and orientation) and amenities to accommodate year-round visitor use.

SYMBOL KEY

- National Battlefield Park Boundary
- Picnic area
- Preserved war time structure (structures would be upgraded for visitor use)
- Visitor center
- Visitor Contact Station and Park Headquarters
- Historic House site
- Other historic site
- Unfinished Railroad Grade
- Sites of Major Combat
- Non-NPS public land within park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned land outside park boundary
- Power line easement
- Proposed Boundary Adjustment
- Proposed Forest Cut Areas
- Proposed Re-forestation Areas
- Historic Views Restored

MANAGEMENT ZONES

- Visitor Experience / Services Zone
- Cultural Landscape Rehabilitation/Preservation Zone
- Motorized Sightseeing / Park Circulation Zone
- Recreation Zone
- Park Operations and Maintenance Zone

NOTES:

- Orientation and visitor services for both battles would be carried out from two central locations.
- Both battles would be presented as distinct military events.
- Visitors would gain an understanding of both battles by visiting the many sites of each battle.
- Extensive landscape rehabilitation would re-establish major historic views and further clear prominent battlefield sites.



Alternative B
Preferred Alternative

The Two Battles of Manassas
Cultural and Historic Landscape Map

SYMBOL KEY

- National Battlefield Park Boundary
- National Battlefield Park Land
- P Parking Area
- H T Horse Trailer Parking Area
- Preserved war time structure
- ★ Visitor center
- ★ Visitor Contact Station/
Park Headquarters
- Unfinished Railroad Grade
- Equestrian Trails
- Proposed Gate Location
- Non-NPS public land
within park boundary
- Privately owned land
within park boundary
- Privately owned land within park
boundary; NPS owns scenic easement
- Privately owned land
outside park boundary

NOTES

- Orientation and visitor services for both battles would be carried out from two central locations.
- Both battles would be presented as distinct military events.
- Visitors would gain an understanding of both battles by visiting the many sites of each battle.
- Extensive landscape rehabilitation would re-establish major historic views and further clear prominent battlefield sites.

INTERPRETIVE TOUR AND TRAIL LEGEND

1st Manassas Interpretive Trails

- Auto/bicycle tour
- Auto tour-Interpretive area
- Long loop trail
- Spur-short loop trail

2nd Manassas Interpretive Trails

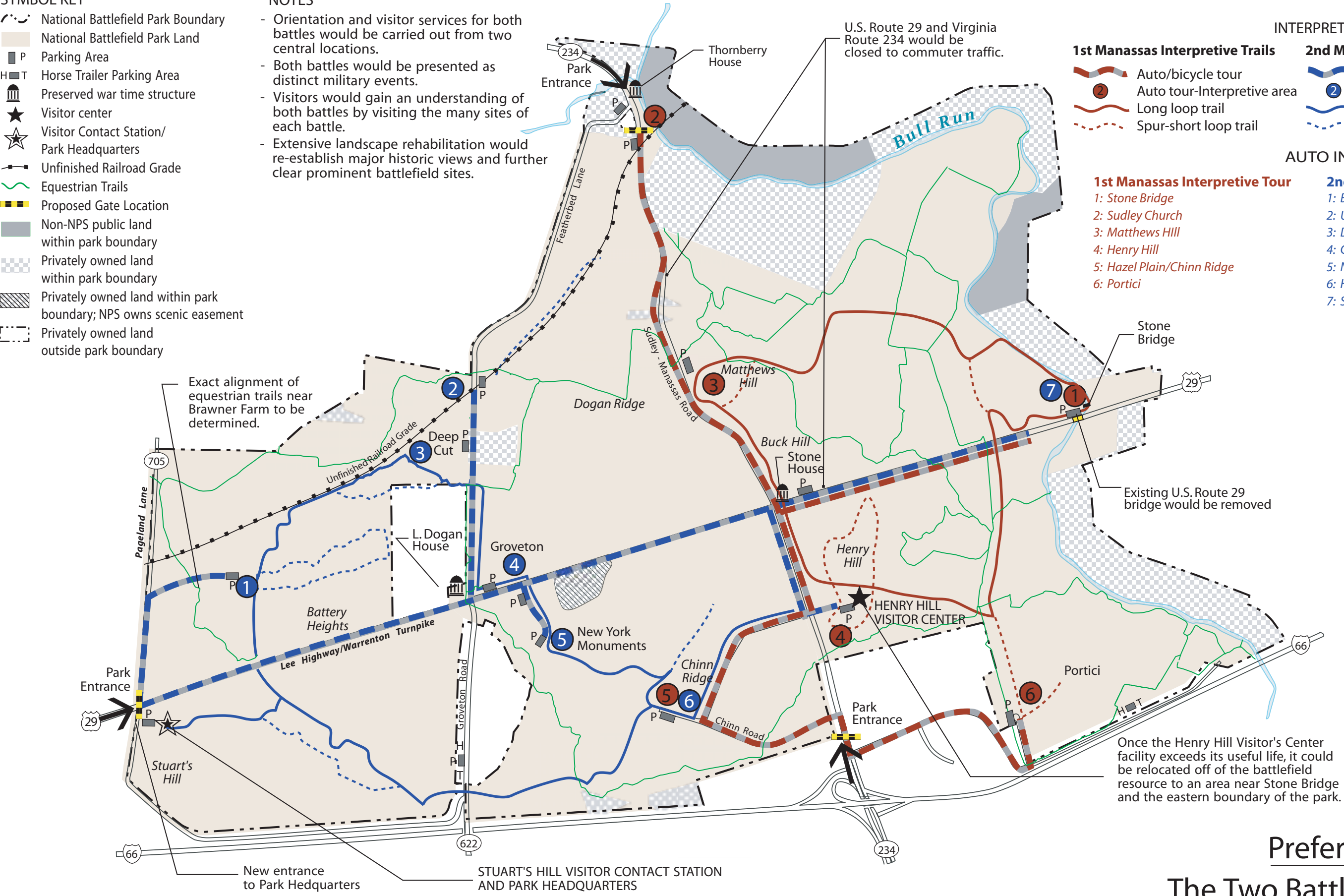
- Auto/bicycle tour
- Auto tour-interpretive area
- Long loop trail
- Spur-short loop trail

AUTO INTERPRETIVE TOUR STOPS

- 1st Manassas Interpretive Tour**

 - 1: Stone Bridge
 - 2: Sudley Church
 - 3: Matthews Hill
 - 4: Henry Hill
 - 5: Hazel Plain/Chinn Ridge
 - 6: Portici
- 2nd Manassas Interpretive Tour**

 - 1: Brawner Farm
 - 2: Unfinished Railroad
 - 3: Deep Cut
 - 4: Groveton
 - 5: New York Monuments
 - 6: Hazel Plain/Chinn Ridge
 - 7: Stone Bridge



Alternative B
Preferred Alternative
The Two Battles of Manassas
Circulation and Interpretation Map

From Stuart's Hill, visitors would be directed to Brawner Farm, the first stop on the Second Manassas driving tour, as well as the site of the opening engagement of the Second Battle. The rehabilitation of Brawner Farm will allow that facility to accommodate the visitation generated by the Second Manassas driving tour and interpretive trails.

Second Manassas Automobile/Bicycle Tour Route

The Second Manassas Automobile/Bicycle tour route would help visitors develop a more thorough understanding of the events and stories of Second Manassas by visiting important battlefield sites. The self-guided tour route would begin at Brawner Farm and would follow the flow of the battle by connecting sites such as Brawner Farm, Unfinished Railroad, Deep Cut, Groveton, New York Monuments, Chinn Ridge, and Stone Bridge.

The park brochure and other media such as an audiotape would explain the route and resources. The tour route would use existing roads and follow wartime routes where possible. No new roads would be developed for the tour route.

The function of the tour stops would be to provide visitors with in-depth information on the many aspects of each element of Second Manassas, and the role of each engagement in the overall battle. The tour stops would receive moderate use and would include small parking areas and interpretive displays. Each tour stop would also include a short loop trail to encourage visitors to leave their cars or bicycles and experience the resources on foot. Interpretive displays along the loop trail would illustrate the events and stories of the battles.

Second Manassas Hiking Trail

The newly configured Second Manassas hiking trail would provide visitors with the opportunity to experience the sites of Second Manassas on foot, while giving the visitor a sense of solitude and discovery. The self-guided hiking trail (approximately 5 miles)

would begin at Brawner Farm and would connect many of the resources of Second Manassas, including the Cundiff and Lewis house sites, Brawner Farm, Unfinished Railroad, Deep Cut, Groveton, New York Monuments, and Chinn Ridge. Wayside exhibits and other media would interpret the resources and stories along the trail. To achieve this condition, the National Park Service would upgrade current trails and interpretive media on the Second Manassas Hiking Trail, and would create new portions of the trail as necessary.

Equestrian Trails

Bridle trails would traverse the park, but would remain separate from the hiking trails. They would provide visitors with the opportunity to experience the park on horseback. Equestrian trails and parking areas for horse trailers would be provided in areas where they could be safely accommodated without impacting historic resources or other visitor uses. The final alignment of a new equestrian trail near Stuart's Hill, as well as the equestrian trails near Brawner Farm would be determined during the implementation of alternative B.

CULTURAL LANDSCAPE REHABILITATION/ PRESERVATION PRESCRIPTION

In alternative B the wartime battlefield landscape would be the focus of resource protection efforts. The function of the landscape would be to represent the wartime scene and help visitors better understand the battles. Modern intrusions would be minimal.

The current landscape on the battlefields has changed over time from its wartime conditions. To help visitors understand the battles and to provide guidance for the management of natural resources, the landscape would be rehabilitated to the 1861-1862 conditions in several key areas through a combination of tree removal, clearing, and reforestation. The National Park Service would clear several wooded areas in the park and reforest other areas to rehabilitate the historic landscape as was recommended in the

1983 GMP. In this alternative, approximately 327 acres of forest would be removed—nearly the amount identified in the 1983 GMP. Approximately 82 acres of land that is currently open field and grassland would be reforested as it was historically.

The areas to be cleared would be managed as open grassland (or, in a few instances, shrub) communities that would be desirable habitat for a variety of birds and wildlife, while still restoring historic vistas for the visitors. Maintaining some of these areas with a lawnmower or other machinery may be prohibited due to terrain. In those cases, prescribed burns would be considered as a potential management tool to help small parcels maintain their historic appearance.

The following historic scene rehabilitation activities would be conducted:

- Approximately 150 acres of woodlands northeast of Brawner Farm, along the Unfinished Railroad grade, and around Deep Cut would be cleared and replaced with open fields and grasslands. This would reestablish the view from Brawner Farm to Deep Cut.
- Approximately 45 acres of woods along the west side of Chinn Ridge would be cleared and replaced with open fields and grasslands to reestablish the view between the ridge and the site of the New York Monuments.
- Approximately 25 acres of woods along the east side of the Chinn Ridge would be cleared and replaced with open fields and grassland to reestablish the view between Chinn Ridge and Henry Hill. The riparian buffer along Chinn Branch would be retained.
- The current Stuart's Hill clearing would be expanded by approximately 30 acres to the east. The clearing would restore the view from General Lee's headquarters towards Centreville during Second Manassas. Approximately 20 acres of land that is currently open space south of Stuart's Hill would be reforested. The historic landscape around the Cundiff House would be rehabilitated to wartime conditions. Approximately 40 acres of trees would be removed and converted to grassland and/or scrubland. Approximately 15 acres of land that is currently open space would be reforested.

- Approximately 20 acres along the north-central portion of Dogan Ridge would be reforested, and a small area of three acres along the curve of the Sudley-Manassas Road would be cleared and managed as open fields.
- Approximately 35 acres of trees would be removed from Matthews Hill and the open fields rehabilitated. To the north, an area of approximately 25 acres would be reforested.
- An additional 5 acres of land along Bull Run to the west of Poplar Ford would be reforested.

To minimize the environmental impact of the tree clearings, the National Park Service would employ best management practices for each phase of the clearings.

Preservation and Rehabilitation of Historic Structures and Sites Prescription

Historic buildings, commemorative features, and site markers are important elements of the battlefield landscape. The National Park Service would continue to preserve historic structures and features, including those that date from the battles such as Stone House, L. Dogan House, Thornberry House, and the Unfinished Railroad. Buildings and structures that do not date from the battles but are historic or mark the site of wartime structures would be stabilized to function as important engagement sites or maintained for park uses. These structures include the Brawner Farm House, Henry House, J. Dogan House, Pringle House, and Stone Bridge.

In addition to continued protection of these structures, the National Park Service would initiate several actions:

- Rehabilitate the Brawner Farm House (beginning in FY 2005) to support public visitation, as part of the Second Manassas tour route.
- Create a "ghosted" outline of the Robinson House ruins.
- Preserve and stabilize the J. Dogan House. This preservation effort would include removing nonconforming structural elements such as siding (and removing the nonconforming modern garage).

MOTORIZED SIGHTSEEING AND CIRCULATION PRESCRIPTION

To minimize the impacts of traffic congestion and enhance the visitor experience on the battlefields, the portions of U.S. Route 29 and VA Route 234 within the boundaries of the park would be transferred to the jurisdiction of the National Park Service and the speed limits would be reduced to 25mph once the Battlefield Bypass is complete. Traffic would be further controlled by removing the existing U.S. Route 29 bridge over Bull Run—which is a visual and historical intrusion on the battlefield—and by providing restricted access to the park at the north and south entrances (VA Route 234), and at the west boundary (U.S. Route 29) of the park.

These new entrance facilities would also be the primary location for collection of park entrance fees. These facilities could either be staffed by park personnel or, in some cases, might be designed as fully automated gates. A more detailed examination of the layout, facility design, and operational characteristic of these entrance stations would be part of subsequent planning and design efforts. Separate accommodation would be made to give unhindered park access to emergency vehicles, park residents, local deliveries, and other essential services.

Designated bicycle lanes would be marked along primary roads throughout the park. The signalized intersection at U.S. Route 29 and VA Route 234 would be replaced with a four-way stop to reduce the real and perceived scale of the road and return it to its historic character. Excess pavement and other physical alterations to the intersection would be removed in this alternative, as a way to both reduce the scale of the road crossing and to restore the historic and more rural appearance of the intersection. A parking lot to the west of Stone Bridge would enable visitors to walk to and see the historic bridge and associated sites inside the park.

RECREATION PRESCRIPTION

A newly designated recreation area would be developed off of Groveton Road to accommodate approved recreational activities, bus parking, and equestrian trail parking. This area is removed from the primary historic landscapes and major interpretive sites. Visitor facilities such as restrooms and picnic tables would be found in this area.

PARK OPERATIONS AND MAINTENANCE PRESCRIPTION

Alternative B would not alter the locations of current park administrative and operational functions. If additional space is needed for park operations in the future, park structures would be adaptively reused. Should the park require any major new facilities, they would be located on disturbed ground within the park—where there is no likelihood of encountering war-related artifacts or features—or at a location outside of the current park or historic district boundaries, should an opportunity or need for a partnership facility arise.

A major new operations consideration in this alternative is the change in ownership of the portions of U.S. Route 29 and VA Route 234 within the boundaries of the park. As proposed, these roads would be turned over by the Commonwealth of Virginia to the National Park Service. As part of the Bypass Study, the details of this acquisition and the related impacts and issues concerning maintenance and management of these roadways would be determined. Estimates provided by the Bypass Study team and the Virginia Department of Transportation indicate that, after acquisition and removal of the signalized intersection, the portions of U.S. Route 29 and VA Route 234 within the park will cost approximately \$35,000-40,000 per year (in 2005 dollars) to maintain.

Staffing levels over the next 15-20 years will need to increase under this alternative. To accommodate the proposed interpretive needs, maintenance requirements, law enforcement, and overall management of the resources, an additional 18 full-time employees (FTEs)

would be necessary to fully implement this alternative. Not all the additional FTEs would necessarily need to be National Park Service employees. The park would explore opportunities to work with partners, volunteers, and other federal agencies to effectively and efficiently manage the park.

The increase in personnel would be necessary to implement the expanded and enhanced interpretation opportunities in the alternative. There would also be a greater demand for resources once the park assumes primary jurisdiction over the portions of U.S. Route 29 and VA Route 234 within the park. Visitation in the park is expected to increase over the life of the plan, which will also result in a greater demand for visitor safety, law enforcement, and resource protection services.

BOUNDARY ADJUSTMENTS

In alternative B a boundary adjustment to the park would be necessary to include the four tracts of land described below. This adjustment would require legislation to amend the existing boundary.

The Davis Tract: A 136-acre parcel of land recently acquired by the Civil War Preservation Trust and a group of local residents. The land is important to the Second Battle of Manassas as a site where General Thomas J. “Stonewall” Jackson maneuvered and withstood repeated assaults. Thus it is especially key to the story at Manassas National Battlefield Park.

The Stonewall Memory Garden Tract: A 43-acre parcel of land that is, without question, the most important property currently outside the park boundaries. On this site, Union general Fitz-John Porter led an assault on Jackson’s line along the Unfinished Railroad on the last day of Second Manassas (August 30, 1862). A sliver of land that was part of that assault is currently within the park boundary.

However, these 43 acres would include all land associated with that part of the battle and would allow full interpretation of the story.

The Conservation Trust Parcel: A 24.25-acre tract of land purchased by the Conservation Trust in 1991 and located almost entirely within the park boundary. The Conservation Trust transferred that land to the National Park Service, but a small piece (.75 acre) was outside the park boundary. Since that time, the Conservation Trust has transferred the land to the Civil War Preservation Trust, which has expressed interest in donating the land to the park.

Dunklin Monument: A 6-acre parcel of land near the park headquarters. The family of a Texas Confederate soldier, Timothy Dunklin, who was killed at Second Manassas, erected the monument. Dunklin is believed to be buried under the monument, and some accounts indicate that there are other Confederate soldiers buried nearby as well. The Dunklin Monument tract is part of an estate called the Latsios Trust. The family owns some 177 acres in two adjoining parcels and has expressed a strong interest in developing the land as an office/high technology complex. Several years ago, VDOT purchased a right-of-way through the property, just to the west of the monument, which left the monument intact along with about 6 acres.

ESTIMATED COSTS

Alternative B would cost approximately \$19,000,000 to \$42,000,000 to implement in 2005 dollars. These figures are estimates only. Detailed design studies are necessary to determine the precise costs of each recommended action in the alternative. For more information please see Appendix D: Estimated Costs.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS—AN UNDERSTANDING OF THE PRINCIPAL EVENTS

CONCEPT

Alternative C focuses on the “watershed” events of the battles, encouraging visitors towards one major visitor center, and multiple interpretive sites. Interpretation of these general events, the outcomes of the battles, and the broader story of the Civil War would be emphasized over the detailed military tactics of each battle. Although other sites in the park would be accessible, the concentration of interpretation and visitor use would be in areas that illustrate the “defining” moments of the battles. Rehabilitating the historic scene in these areas would be important to help visitors understand these principal events.

In alternative C, the overall reasons and strategy for the Civil War would be presented in a comprehensive way. The importance of the Manassas battles would be presented in the overall context of the Civil War. Other stories, such as the local families and African Americans that were affected by the Manassas battles, could be interpreted in the park. Map 2-5 depicts the cultural and historic elements of alternative C.

The general stories and outcomes of the battles would also be presented. Orientation and visitor services for both battles would be carried out from a central location. The visitor experience would not be highly structured and key interpretive areas could be visited without regard to order or sequence. Visitors could tailor their visit to those elements of the battles in which they were most interested.

Key interpretive areas would explain the battle events. In these areas, historic structures would serve interpretive functions and be accessible to visitors. Extensive interpretive displays would explain the battle events and view corridors would be developed to enhance visitor understanding of key battle events. The National Park Service would also establish vegetative buffers and design visitor areas so that adjacent development could not be seen.

Map 2-6 depicts the circulation and interpretation elements of alternative C.

Overall visitor experience and safety would also be enhanced by the construction of the Manassas National Battlefield Park Bypass. This road would eliminate heavy commuter and commercial truck traffic from the portions of U.S. Route 29 and VA Route 234 that run through the park. Through traffic will be further limited with the addition of controlled access points.

ORIENTATION AND VISITOR SERVICES PRESCRIPTION

In alternative C, visitors would be able to move through the park and experience the battlefields in a setting that is characteristic of the historic scene. Visitors would be oriented to the park at a new visitor’s center near Stone Bridge. Here they would learn about the watershed events of the war. Visitors would be encouraged to visit key sites throughout the park for specific interpretation of battle events. The visitor center at Henry Hill would be removed, rehabilitating the historic landscape and battlefield scene in this location.

Stone Bridge Visitor Center

In alternative C, a new visitor’s center near Stone Bridge and the eastern boundary of the park would function as the initial stop and primary orientation point for park visitors. The area would accommodate a high level of visitor use by including a parking area and visitor services in the visitor center.

The function of the new visitor center would be to orient the visitors to the park and to present the overall strategy and tactics of the two battles. The focus of interpretation at this visitor center would be on the Comprehensive Story of the Civil War. The visitor center would also highlight key interpretive sites throughout the park. Visitors could then visit by auto or bicycle the sites of both battles

that interests them. Formal tour routes would not exist.

The relocation of the visitors' facilities would require a feasibility study to evaluate the proposed location. This relocation would create a major new entry point to the park that would correspond with proposed access changes associated with eliminating commuter traffic from the park. A new access road and bridge over Bull Run would be constructed to minimize impacts on the historical scene. Should partnership opportunities present themselves, a Civil War Museum and Heritage Center, which would interpret the local impact of the Civil War, would also be explored as part of the new visitor center.

The Henry Hill Visitor Center is in the area of the most intense fighting of First Manassas. In this alternative, upon completion of consultation under Section 106 of the National Historic Preservation Act, the Henry Hill Visitor Center would be removed from Henry Hill, allowing for the rehabilitation of the historic battlefield landscape.

Key Interpretive Sites

Key interpretive sites throughout the park would convey the overall stories of the First and Second Battles of Manassas, as well as major stories specific to each particular site. Visitors would not need to visit all the sites or visit them in a sequence to understand the battles. Visitors would have the freedom to experience as many or as few of the sites as they wished while gaining a general understanding of the battles.

The key interpretive sites would include Brawner Farm, Chinn Ridge, Deep Cut/Unfinished Railroad, Groveton, Henry Hill, Portici, Stone Bridge, Stone House, Stuart's Hill, and Sudley.

Each of these sites would receive moderate to high visitor use and would include a parking area and interpretive loop trail. Living history and other interpretive programs would be concentrated at these sites. Extensive

interpretive exhibits would be provided at a greater level than alternative B and, where possible, incorporated into historic structures or important engagement sites.

Each site would convey four basic messages:

- The overall story of the Civil War
- The general strategy and tactics of the First and Second Battles
- Detailed interpretation of the site and its role and impacts on the battles
- A description of other major sites in the park

Each site could also include information on archeology, social history, and other similar topics. To meet these conditions, the National Park Service would initiate several actions:

- Extensive interpretive displays would be developed for each of the key interpretive sites, and current loop trails would be upgraded to enhance the visitors' experience and understanding of the Civil War and the two battles.
- The Thornberry House and Henry House have been rehabilitated to accommodate interior interpretive exhibits. Similar improvements are underway at the Brawner House.
- The informal parking area at the gate to Brawner Farm along the Warrenton Turnpike would be removed and this important view restored. The current Battery Heights parking area would also be removed and the interpretive displays incorporated into the Brawner Farm program.
- The trail that connects the Groveton parking area with the L. Dogan House, the Groveton Confederate Cemetery, and the New York Monuments would be retained.
- Interpretive displays and exhibits in the current Stuart's Hill Contact Station would be upgraded. Depending upon the exact location of the new bypass, the entrance roadway and parking areas at Stuart's Hill could be redesigned to help minimize the visual impact of the high voltage transmission lines along the park's western boundary.

SYMBOL KEY

- National Battlefield Park Boundary
- Picnic area
- Preserved war time structure (structures would be upgraded for visitor use)
- Visitor center
- Visitor Contact Station and Park Headquarters
- Historic House site
- Other historic site
- Unfinished Railroad Grade
- Sites of Major Combat
- Non-NPS public land within park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned land outside park boundary
- Power line easement
- Proposed Boundary Adjustment
- Proposed Forest Cut Areas
- Historic Views Restored

- NOTES:
- Visitors would gain an overall understanding of both battles by visiting the sites of "watershed" events.
 - A few important view corridors would be developed, but landscape rehabilitation would not be extensive.
 - A new visitor's center would be located near Stone Bridge. The new visitor center would orient visitors to the park and would present the overall strategy and tactics of the two battles. The interpretive focus of this visitor center would be on the Comprehensive Story of the Civil War.

MANAGEMENT ZONES

- Visitor Experience / Services Zone
- Cultural Landscape Rehabilitation/Preservation Zone
- Motorized Sightseeing / Park Circulation Zone
- Recreation Zone
- Park Operations and Maintenance Zone



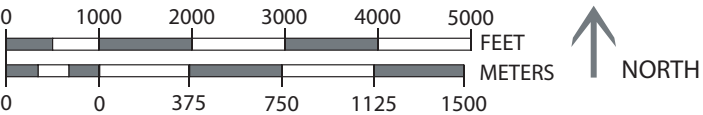
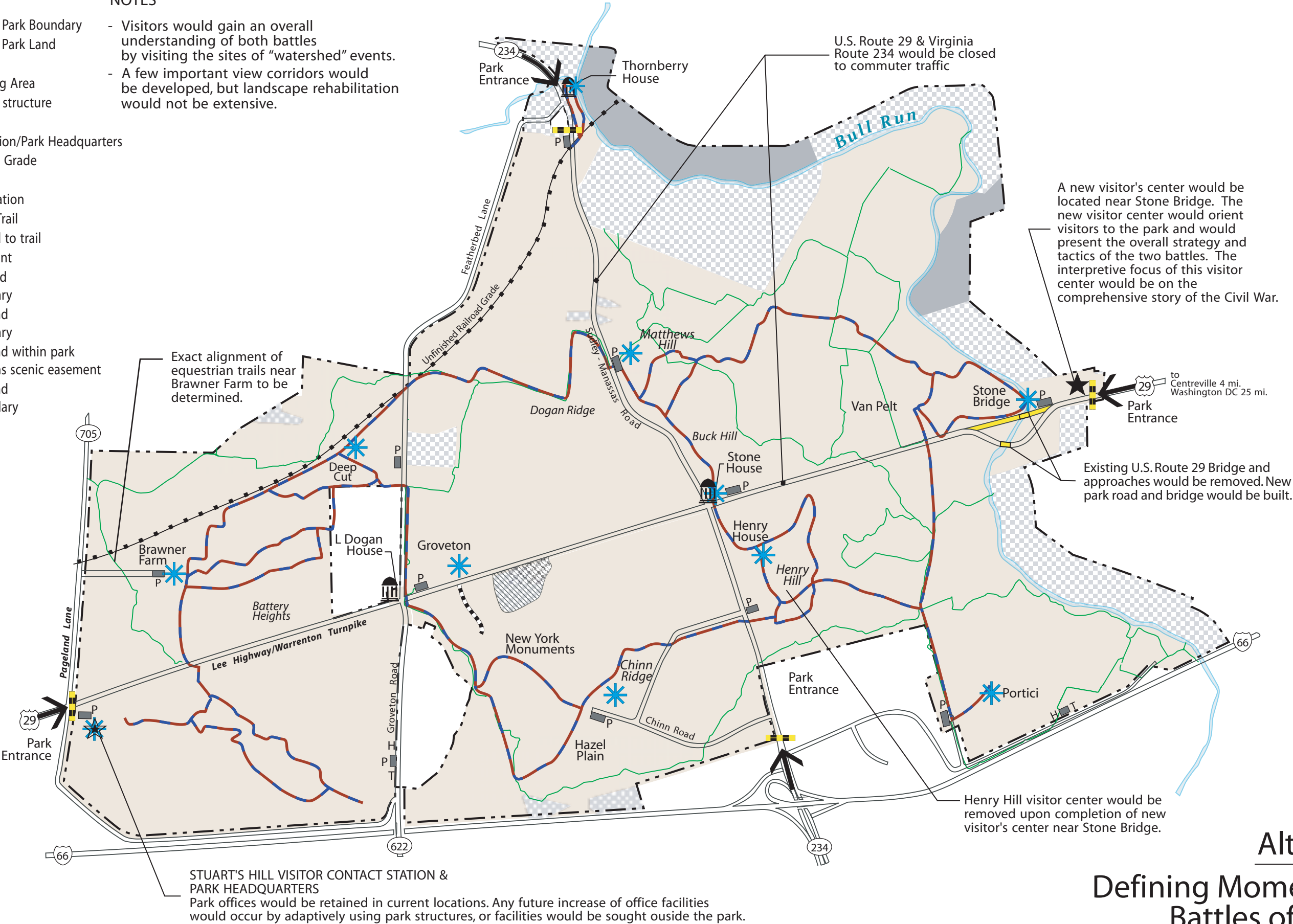
Alternative C
Defining Moments of the Battle of Manassas
Cultural and Historic Landscape Map

SYMBOL KEY

- National Battlefield Park Boundary
- National Battlefield Park Land
- Parking Area
- Horse Trailer Parking Area
- Preserved war time structure
- Visitor center
- Visitor Contact Station/Park Headquarters
- Unfinished Railroad Grade
- Equestrian Trails
- Proposed Gate Location
- Major Interpretive Trail
- Roadway converted to trail
- Key Interpretive Point
- Non-NPS public land within park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned land outside park boundary

NOTES

- Visitors would gain an overall understanding of both battles by visiting the sites of "watershed" events.
- A few important view corridors would be developed, but landscape rehabilitation would not be extensive.



Alternative C

Defining Moments of the Battles of Manassas

Circulation and Interpretation Map

Battlefield Trails

Current hiking trails would be redesigned to create two separate 5-mile hiking trails for First Manassas and Second Manassas. The primary function of the trails would be to provide those visitors interested in the military and tactical aspects of the battles an opportunity to gain a more thorough understanding of the battles. A secondary function of the trails would be to provide visitors with solitude and a sense of discovery. The First Manassas hiking trail would begin and end at the Stone Bridge and would link sites related to the first battle. The Second Manassas hiking trail would begin and end at Brawner Farm and would link the resources related to the second battle.

Equestrian Trails

Bridle trails would traverse the park, but would remain separate from the hiking trails. They would provide visitors with the opportunity to experience the park on horseback. Equestrian trails and parking areas for horse trailers would be provided in areas where they could be safely accommodated without impacting historic resources or other visitor uses. The final alignment of a new equestrian trail near Stuart's Hill, as well as the equestrian trails near Brawner Farm would be determined during the implementation of alternative C.

CULTURAL LANDSCAPE REHABILITATION/PRESERVATION PRESCRIPTION

Alternative C would not attempt to re-create the historic landscape; rather it would manage the current patterns of open fields and wooded areas. Historic views would be explained through interpretive exhibits. In those areas where especially important views are obscured by modern tree cover, view corridors would be established. These corridors would not attempt to represent the extent of the historic field pattern. However, the cleared corridors would provide a line of sight between important features and be wide enough to avoid encroachment by the wooded areas. Riparian buffer zones would protect bottomland forests/wetlands within perimeters

of proposed cuts. Where the battlefield resources are maintained to represent the wartime scene, interpretive exhibits would be created to allow visitors to understand the role of the landscape and the battlefield terrain on the events of the two battles. The historic landscape at Groveton would be rehabilitated by removing the modern residence and outbuildings.

To meet these conditions, the National Park Service would initiate several actions:

- The current view corridor at Deep Cut would be widened by removing approximately 40 acres of trees.
- A view corridor would be re-established from Chinn Ridge to the New York Monuments by removing approximately 30 acres of trees.

To minimize the environmental impact of the tree clearings, the National Park Service would employ best management practices for each phase of the clearings.

Preservation and Rehabilitation of Historic Structures and Sites

Historic structures and features, including those that date from the battles, would be preserved and would be prominent features at the key interpretive sites. These structures include the Stone House, L. Dogan House, Thornberry House, Robinson House ruins, and Unfinished Railroad. Other structures that do not date from the battles but that are historic or mark the site of wartime structures would be retained as important engagement sites or for park uses. These structures include Brawner House, Henry House, J. Dogan House, Pringle House, and Stone Bridge.

In addition to continued protection of these structures, the National Park Service would initiate several actions:

- Rehabilitate the Brawner Farm House (beginning in FY 2005) to support public visitation, as part of the auto/bicycle tour route.
- Stabilize and upgrade the L. Dogan House to function as a key interpretive site with exhibits, parking, and trail access.

- Use Stone House as a key interpretive site with exhibits, parking, and trail access. The house has been rehabilitated, and it has both furnishings and exhibits, with parking already available. It would be a fully functional interpretive site under this alternative.
- Use Thornberry House as a key interpretive site with exhibits, parking, and trail access.

MOTORIZED SIGHTSEEING AND CIRCULATION PRESCRIPTION

To minimize the impacts of traffic congestion and enhance the visitor experience on the battlefields, the portions of U.S. Route 29 and VA Route 234 within the boundaries of the park would be transferred to the jurisdiction of the National Park Service and the speed limits would be reduced to 25mph. Once a new bypass route is in place, traffic would be further controlled by providing restricted access to the park at the north and south entrances (VA Route 234), and at the east and west boundaries (U.S. Route 29) of the park.

These new entrance facilities would also be the primary location for collection of park entrance fees. These facilities could either be staffed by park personnel or, in some cases, might be designed as fully automated gates. A more detailed examination of the layout, facility design, and operational characteristic of these entrance stations would be part of subsequent planning and design efforts. It is possible that these other entrances could be closed as park access points. Separate accommodation would be made to give unhindered park access to emergency vehicles, residents, local deliveries, and other essential services.

To create a more appropriate roadway system within the park, the signalized intersection at U.S. Route 29 and VA Route 234 would be replaced with a four-way stop, and the historic character would be restored by returning roads to a two-lane width throughout. With reduced speed limits, designated bicycle lanes would be marked along primary roads throughout the park. Although not specific to this proposal, it would be consistent with this alternative for National Park Service to, when possible, redesign the roads (with narrower

pavement, historic grades, and other features) to minimize their impact on the battlefields.

In this alternative, the existing U.S. Route 29 bridge over Bull Run would be removed and a replacement bridge would be constructed in a new location that would not be visible from Stone Bridge. This would occur in conjunction with the Battlefield Bypass and the development of a new visitor center near Stone Bridge. This area would also serve as the primary entrance for park visitors.

In this alternative, the National Park Service would explore the development of an alternative transportation system to move visitors throughout the park. A shuttle system or other transportation options that would allow visitors to leave their personal vehicles and tour in larger groups could be explored. Current visitation levels make it difficult to support such a system on a continued basis. However, should future visitation levels dramatically increase and it becomes feasible and desirable to develop a park shuttle system, a transportation study to analyze several transit options would be prepared.

RECREATION PRESCRIPTION

A newly designated recreation area would be developed off of Groveton Road to accommodate approved recreational activities, bus parking, and equestrian trail parking. This area is away from the primary historic landscapes and major interpretive sites. Visitor facilities such as restrooms and picnic tables would be present in this area.

PARK OPERATIONS AND MAINTENANCE PRESCRIPTION

Alternative C would not alter the locations of current park administrative and operational functions. If additional space is needed for park operations in the future, existing park structures would be adaptively reused. It would also be consistent with alternative C to relocate some office/administrative functions to the new visitor's center facility at Stone Bridge.

A major new operational consideration in this alternative is the change in ownership of U.S. Route 29 and VA Route 234 within the boundaries of the park. As proposed, these roads would be turned over from the Commonwealth of Virginia to the National Park Service. As part of the Bypass Study, the details of this acquisition and the related impacts and issues concerning maintenance and management of these roadways would be determined. Estimates provided by the Bypass Study team and the Virginia Department of Transportation indicate that, after acquisition and removal of the signalized intersection, the portions of U.S. Route 29 and VA Route 234 within the park will cost approximately \$35,000-40,000 per year (in 2005 dollars) to maintain.

Staffing levels over the next 15-20 years will need to increase under this alternative. To accommodate the proposed interpretive needs, maintenance requirements, law enforcement, and overall management of the resources, an additional 25 full-time employees (FTEs) would be necessary to fully implement this alternative. Not all the additional FTEs would necessarily need to be National Park Service employees. The park would explore opportunities to work with partners, volunteers, and other federal agencies to effectively and efficiently manage the park.

The increase in personnel would be necessary to implement the expanded and enhanced interpretation opportunities in the alternative. There would also be a greater demand for resources once the park assumes primary jurisdiction over the portions of U.S. Route 29 and VA Route 234 within the park. Visitation in the park is expected to increase over the life of the plan, which will also result in a greater demand for visitor safety, law enforcement, and resource protection services.

BOUNDARY ADJUSTMENTS

In alternative C a boundary adjustment to the park would be necessary to include the four tracts of land described below. This adjustment would require legislation to amend the existing boundary.

The Davis Tract: A 136-acre parcel of land recently acquired by the Civil War Preservation Trust and a group of local residents. The land is important to the Second Battle of Manassas as a site where General Thomas J. “Stonewall” Jackson maneuvered and withstood repeated assaults. Thus it is especially key to the story at Manassas National Battlefield Park.

The Stonewall Memory Garden Tract: A 43-acre parcel of land that is, without question, the most important property currently outside the park boundaries. On this site, Union general Fitz-John Porter led an assault on Jackson’s line along the Unfinished Railroad on the last day of Second Manassas (August 30, 1862). A sliver of land that was part of that assault is currently within the park boundary. However, these 43 acres would include all land associated with that part of the battle and would allow full interpretation of the story.

The Conservation Trust Parcel: A 24.25-acre tract of land purchased by the Conservation Trust in 1991 and located almost entirely within the park boundary. The Conservation Trust transferred that land to the National Park Service, but a small piece (.75 acre) was outside the park boundary. Since that time, the Conservation Trust has transferred the land to the Civil War Preservation Trust, which has expressed interest in donating the land to the park.

Dunklin Monument: A 6-acre parcel of land near the park headquarters. The family of a Texas Confederate soldier, Timothy Dunklin, who was killed at Second Manassas, erected the monument. Dunklin is believed to be buried under the monument, and some accounts indicate that there are other Confederate soldiers buried nearby as well. The Dunklin Monument tract is part of an estate called the Latsios Trust. The family owns some 177 acres in two adjoining parcels and has expressed a strong interest in developing the land as an office/high technology complex. Several years ago, VDOT purchased a right-of-way through the property, just to the west of the monument, which left the monument intact along with about 6 acres.

ESTIMATED COSTS

Alternative B would cost approximately \$34,500,000 to \$74,000,000 to implement in 2005 dollars. These figures are estimates only.

Detailed design studies are necessary to determine the precise costs of each recommended action in the alternative. For more information please see Appendix D: Estimated Costs.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

In accordance with NPS Director's Order #12, the National Park Service is required to identify the environmentally preferable alternative in all environmental documents. The environmentally preferable alternative is determined by applying the criteria suggested in National Environmental Policy Act of 1969, which is guided by the Council on Environmental Quality. The Council on Environmental Quality provides direction that the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in Section 101 of the National Environmental Policy Act, which considers

- fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations
- assuring for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings
- attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences
- preserving important historic, cultural, and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice
- achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities
- enhancing the quality of renewable resources and approaching the maximum attainable recycling of nonrenewable resources

Table 2-3 presents a summary of the impact analysis described in "Environmental Consequences" chapter. This table explains how each alternative meets or fails to meet the above criteria.

Alternative A (no-action) would not resolve traffic problems. Commuter and commercial traffic would remain detrimental to the visitor experience, cultural resources, and visitor safety at the park.

Implementation of alternative A would not fulfill criteria 1 through 5 above. Alternative A

does not completely fulfill the responsibilities to protect the resources, nor does it assure a safe and culturally pleasing surrounding for succeeding generations (Criteria 1 and 2). Furthermore, alternative A does not attain the widest range of beneficial use without degradation and risk of health and safety (Criterion 3). For example, traffic levels adversely impact the battlefield resource, safety, and visitor use and experience. Alternative A fails to preserve and protect some of the cultural aspects and natural heritage of the park because of the traffic conditions (Criterion 4). Finally, alternative A does not fully achieve a balance between the resource and the surrounding population because commuter traffic through the park would continue to affect the battlefield cultural landscape and visitor experience (Criterion 5). Therefore, alternative A is not the environmentally preferred alternative.

The two action alternatives, B and C, are focused primarily on rehabilitation and preservation of the battlefield resources and the enhancement of the visitor experience, which is instrumental to the park's mission and purpose. Therefore, many of the actions under alternatives B and C have beneficial impacts on the cultural environment and visitor experience with some compromise on the natural or social environment. For instance, the cultural landscape rehabilitation (forest thinning) under alternative B would have greater benefit to the battlefield landscape and visitor experience than alternative C because it would rehabilitate the landscape to its wartime appearance. The conversion of some forested areas to grasslands and/or scrubland in both alternatives B and C would be beneficial to certain species of plants and animals. More such conversion would be done in B than C. However, to accomplish this, the National Park Service would clear more forested area, creating a greater adverse impact on certain other vegetation and wildlife than alternative C. Similarly, removing the visitor center from Henry Hill under alternative C would have greater benefits than alternative B by rehabilitating the historic battlefield landscape. However, the relocation of the visitor center to the east side of the park

would likely have greater adverse impacts to water resources.

When selecting the environmentally preferred alternative and assessing the impacts to the natural, social, and cultural environments, it is important to understand the primary purpose of the park as identified in the establishing legislation. The park's mission is "to preserve and protect the sites, structures, and objects associated with the First and Second Battles of Manassas and, through interpretation, foster an understanding and appreciation of their significance in the broader context of the American Civil War for the inspiration and benefit to the public" (NPS 2004c).

The two action alternatives, alternatives B and C, fulfill the National Park Service's responsibility as a trustee for the environment for succeeding generations (Criterion 1) through resource protection and preservation. The proposed actions described under alternatives B and C would assure that all generations have safe, healthful, and aesthetically and culturally pleasing surroundings (Criterion 2) because of the visitor services enhancements, transportation improvements, battlefield scene rehabilitation, and historic structure preservation and rehabilitation. Under alternatives B and C, the National Park Service seeks to preserve the cultural and natural heritage aspects (Criterion 4) of the park. Both alternatives seek to restore a balance between the population and the resource (Criterion 5) by eliminating commuter and commercial traffic on the portions of U.S. Route 29 and VA Route 234 that run through the park to enhance cultural resources, the soundscape, and the visitor experience.

Overall, both alternatives have tremendous benefits and promote national environmental policy as expressed in Section 101 of the National Environmental Policy Act. However, alternative B has been chosen as the environmental preferred alternative.

Alternative B was chosen because it creates fewer adverse impacts on natural resources than alternative C. Alternative B also maximizes the attainable use of the Henry Hill Visitor Center and Stuart's Hill Visitor Contact Station. The battlefield landscape rehabilitation under alternative B and the relocation of

the visitor center off of the battlefield under alternative C have tremendous cultural resource benefits. Nevertheless, they also create adverse impacts on natural resources.

In choosing the environmentally preferred alternative, one primary difference between these two actions is the adverse impacts of creating a new access road and bridge into the park to support a new visitor center and major entry point on the east side of the park, as proposed in alternative C. These actions would have greater impacts to natural resources than those actions identified in alternative B. The new bridge and access road would have to cross—and would impact—Bull Run, its floodplain, and associated wetlands.

By comparison, the forest clearing activities under alternative B would avoid construction in the floodplain and would not be implemented in riparian and wetland areas. Additional site-specific environmental analyses would be performed to assess the degree of environmental impacts with both actions; however, the natural resource impacts associated with the new visitor center, bridge, and access road under alternative C are anticipated to be greater than impacts resulting from the forest thinning activities under alternative B. Therefore, alternative B would best fulfill Criterion 3; of the three alternatives, it would have the greatest benefits for the least amount of degradation to the environment.

Alternative B also maximizes the attainable use of Henry Hill Visitor Center and Stuart's Hill Visitor Contact Station without undesirable consequences, which better fulfills Criteria 3 and 6. Alternative B proposes the continued use of both facilities. Under alternative C the National Park Service would begin planning to remove the existing visitor center and to build a new visitor center near Stone Bridge. Additional study would be needed to determine at what point the Henry Hill Visitor Center and Stuart's Hill Visitor Contact Station facilities would no longer be a productive and safe environment to house visitor services and park operations. However, it is assumed that alternative B would maximize the use of the facility and resource. Therefore, alternative B is the environmentally preferred alternative.

MITIGATION MEASURES/BEST MANAGEMENT PRACTICES

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 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 reviews (i.e., those required by the National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for the future actions described in the alternatives. 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 as a way 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, and other key regulations. The compliance-monitoring program would oversee these mitigation measures and would include reporting protocols.

The following mitigation 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.

NATURAL RESOURCES

- If site-specific actions proposed under this General Management Plan have the potential to impact water resources, water quality, or other aspects of the natural

environment, the National Park Service would subject the projects to site-specific planning and compliance. Additional environmental analysis and documentation would be needed to comply with the National Environmental Policy Act prior to implementation. Examples of actions where additional analysis would be needed might include but not be limited to the U.S. Route 29 bridge removal, landscape scene rehabilitation, and other projects that may require land disturbance.

- For construction or scene rehabilitation, the National Park Service contract administrators would specify that contractors use appropriate sediment and erosion control measures, minimize discharge to water bodies, regularly inspect construction equipment for leaks of petroleum and other chemicals, and provide for dust control, the addition of pollution control devices on construction equipment, and the use of low polluting fuels. Where ground disturbance is anticipated, Best Management Practices to control soil erosion and loss during construction activities would include minimization of disturbance areas, use of silt fences, revegetation, or other applicable practices to control drainage and erosion in accordance with an approved sediment and erosion control plan.
- The National Park Service would maintain the riparian buffers along all streams to mitigate potential bank erosion and channel siltation from forest removal areas. Forest removal operations would also incorporate Virginia Department of Forestry best management practices to avoid erosion problems, particularly where disturbance would occur on slopes. Riparian buffers as identified here may be maintained as wooded buffers or shrub and grass buffers, depending on the significance of the historic views to be restored at specific sites within the park.

- Upon the completion of a bypass route and the transfer of the portions of U.S. Route 29 and VA Route 234 within the park to NPS jurisdiction, the addition of pollution control devices on maintenance equipment and the use of low polluting fuels would be called for in any future plans.

CULTURAL RESOURCES

- The National Park Service would conduct site-specific planning and compliance for projects that have the potential for impacts on historic resources. The National Park Service would make efforts to avoid adverse impacts through use of the Secretary of the Interior's Standards for Archeology and Historic Preservation as well as screening and/or sensitive design that would be compatible with historic resources. If adverse impacts could not be avoided, the National Park Service would mitigate these impacts through a consultation process with all interested parties.
- As appropriate, archeological surveys and/or monitoring would precede any construction. Limited information is available about existing archeological resources in the park. Known archeological resources would be avoided, and new facilities would be located in previously disturbed areas to the greatest extent possible. If National Register-eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the Virginia Department of Historic Resources (the state historic preservation office). If previously undiscovered archeological resources were uncovered during construction, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the state historic preservation office. In the unlikely event that Native American human remains,

funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed. Other human remains would be treated in accordance with applicable local regulations.

- Through best management practices, the National Park Service would rehabilitate the battlefield and cultural landscape to the greatest extent feasible. This process could entail the rehabilitation of important historic viewsheds through thinning and clearing of selected wooded areas, rehabilitation of historic forested areas through natural succession, and rehabilitating agricultural fields by removing noncontributing and incompatible structures and incorporating new structures using compatible design.

SOCIOECONOMIC ENVIRONMENT

- If site-specific actions proposed under this General Management Plan have the potential to impact the social setting, economy, or other aspects of the socioeconomic environment, the National Park Service would subject the projects to site-specific planning and compliance. Additional environmental analysis and documentation to comply with the National Environmental Policy Act would be needed prior to implementation. Examples of actions where additional analysis would be needed would include but not be limited to the controlled access into the park and removal of the U.S. Route 29 Bridge over Bull Run.

VISITOR EXPERIENCE

- The air quality non-attainment for ozone standards might offer exploratory partnering and/or funding opportunities with neighboring jurisdictions to lessen nearby vehicular traffic, and this in turn might reduce the noise and thus improve the park's soundscape for visitors.

FUTURE STUDIES AND IMPLEMENTATION PLANS NEEDED

Following completion and approval of a General Management Plan for Manassas National Battlefield Park, other more detailed studies and plans would be needed for implementation of specific actions. As required, additional environmental compliance (National Environmental Policy Act, National Historic Preservation Act, and other relevant laws and policies), and public involvement would be conducted. Those additional studies include but would not be limited to the following.

- Environmental Assessment for improvements to the Second Manassas Visitor Contact Station at Stuart's Hill.
- Controlled Access Study/Environmental Assessment for implementation of controlled access/gates on U.S. Route 29 and VA Route 234 and transportation improvements.
- Environmental Assessment/Assessment of Effect for the Removal of the U.S. Route 29 Bridge over Bull Run.
- Environmental Assessment/Assessment of Effect for battlefield landscape and scene rehabilitation activities described in this plan, taking into consideration the cultural landscape reports performed for the Brawner Farm and Stuart's Hill areas of the park.
- Section 106 Compliance/Assessment of Effect for historic rehabilitation and preservation projects described in this plan.
- Environmental Assessment for a new visitor center and associated site improvements at the

eastern boundary of the park near Stone Bridge, as proposed in alternative C.

- A Cultural Landscape Report for the entire park is needed to enhance the park's existing partial cultural landscape inventories, and to make specific landscape treatment recommendations that would be reconciled with the battlefield landscape and scene rehabilitation activities proposed and described in this plan. Separate Cultural Landscape Reports have been prepared for the Brawner Farm and Stuart's Hill areas, but none have been prepared for remainder of the park, or for the park as a whole. Implementation of such activities would call for a combined Environmental Assessment/Assessment of Effect, respectively, to comply with the National Environmental Policy Act of 1969 and Section 106 of the National Historic Preservation Act of 1966.
- Visitation Surveys to assess seasonal visitor use and anticipated staffing, interpretive, and transportation needs.
- A park-wide Archeological Survey is recommended to assist the park with the protection of archeological resources that are threatened by looting and park use. The park holds high research interest for historical archeology, and the likelihood of uncovering useful information is high. While there is some high-quality data for specific sites within the park, most of the park has not been surveyed.

A park-wide Resource Stewardship Plan, in accordance with recently updated Park Planning Standards, and Director's Order 2-1.

Table 2-2: Alternatives Summary			
	Alternative A –No Action	Alternative B—The Two Battles of Manassas	Alternative C—The Defining Moments of the Battles
	Continue Current Management. Continue to implement the 1983 GMP actions on a limited basis. Visitor experience remains compromised due to heavy commuter traffic	A comprehensive understanding of each battle. Visitor experience is greatly enhanced with the elimination of commuter traffic	A comprehensive understanding of the Civil War and the strategic importance of each battle within the context of the war. Visitor experience is greatly enhanced with the elimination of commuter traffic
Concept	- Current management practices would be continued; First Manassas would continue to receive greater interpretation and visitor attention due to the difficulty of traversing the portions of U.S. Route 29 and VA 234 in the park. However, the park is able to devote more time and facilities to both battles, especially with the more recent additions of the Brawner Farm and Stuart's Hill tracts. - Orientation and visitor services for both battles would primarily be carried out from the Henry Hill visitor center. - Visitors would gain an understanding of both battles by visiting the many sites associated with each battle. - Only small components of the altered historic landscape would be rehabilitated.	- Both battles would be presented as distinct military events. The additions of the Brawner Farm and Stuart's Hill tracts provide a much greater opportunity to present a more comprehensive story of Second Manassas. - Heavy volumes of commuter and commercial truck traffic would be eliminated from the park, greatly enhancing the visitor experience. - Orientation and visitor services for both battles would be carried out from two locations. The Henry Hill Visitor Center would be the primary orientation point for the park as a whole, and would serve as the starting point for First Manassas tours. - A Second Manassas Visitor Contact Station at Stuart's Hill (and eventually at Brawner Farm) would interpret Second Manassas. - Visitors would gain a thorough understanding of both battles by visiting the many sites associated with each battle. - Rehabilitation of the historic scene would be important to enhance visitor understanding of battle events and tactics.	- Visitors would gain an overall understanding of both battles by visiting the sites of "watershed" events. - The importance of the Manassas battles would be presented as they relate to the overall context of the Civil War. Other stories, such as those pertaining to local families, including African American families and communities that were impacted by the Manassas battles, could also be interpreted in the park. - The overall reasons and strategy for the Civil War and how the war ended would be presented in a Civil War Museum; perhaps in partnership with other groups. - Heavy volumes of commuter and commercial truck traffic would be eliminated from the park and this would greatly enhance the visitor experience . - Orientation and visitor services for both battles would be carried out from a new visitor center, to be constructed near Stone Bridge. - Important view corridors would be developed to enhance visitor understanding of battle events and tactics.

Table 2-2: Alternatives Summary

	Alternative A –No Action	Alternative B—The Two Battles of Manassas	Alternative C—The Defining Moments of the Battles
Management Prescriptions and Specific Actions	• Visitors would be oriented to the park and introduced to both battles at Henry Hill. Visitors would receive additional information on Second Manassas at a visitor contact station on Stuart's Hill. • The interpretive materials at the Henry Hill Visitor Center would still focus on the overall importance and strategy of First Manassas. The visitor contact station at Stuart's Hill would focus on Second Manassas. • Orientation and visitor services for both battles would primarily be carried out from the existing visitor center. • An auto/bicycle tour route of several of the major battle sites would continue to exist, and would focus primarily on the major sites of Second Manassas. Visitors would tour First Manassas sites on foot via the Henry Hill Loop Trail. The First Manassas Hiking Trail would also be available for longer hikes. • Each site would present the specific battlefield engagement, and provide a parking area and interpretive displays. Most areas would have a short-loop hiking trail. However, interpretive programs would still be primarily concentrated at the visitor center. • Two separate long interpretive loop hiking trails (5 miles each) would start at the Henry Hill Visitor Center and would connect major engagement sites of each battle. These trails would provide an opportunity to learn more about the individual engagements and battles. • Bridle trails would continue to remain separate from the hiking trails.	• Visitors would be oriented to the resources of First Manassas at the visitor center on Henry Hill and to the resources of Second Manassas at a Second Manassas Visitor Contact Station at Stuart's Hill. • The interpretive materials at the Henry Hill Visitor Center would focus on the overall importance and strategy of the First Battle, and the Second Manassas Visitor Contact Station would interpret the Second Battle similarly. • Orientation and visitor services for both battles would be carried out from two locations. • Separate auto and bicycle tour routes would be developed for each battle. The sites would generally be visited in chronological order. Each site would include a parking area, interpretive displays, and a short loop trail; interpretive programs would be concentrated in these areas. • Each site would present the role of the conflict and other key engagements in the two battles. • Two separate long-loop interpretive hiking trails (5 miles each) would connect major engagement sites of each battle, enhancing the visitor's understanding of the battles. • The First Manassas loop trail would start at the Henry Hill Visitor Center and connect the sites of the first battle. The Second Manassas loop trail would originate at Brawner Farm and would explore many of the important battle sites of the second battle. • Bridle trails would be separate from the interpretive loop hiking trails.	• Visitors would be oriented to the park at the new visitor center, to be constructed near Stone Bridge. • The importance of the Manassas battles would be presented as they relate to the overall context of the Civil War. Other stories, including those pertaining to the local families and African American communities that were impacted by the Manassas battles, could also be interpreted in the park. • Orientation and visitor services for both battles would be carried out from a central location • The overall reasons and strategy for the Civil War, and major Civil War topics such as tactics, Weapons, and technological developments could be presented in a Civil War Museum situated within or external to the park; perhaps in partnership with other groups. • From the visitor center, visitors would be directed to an auto/bicycle tour route that would include sites from both battles. The sites could be visited in any order; formal tour routes would not exist. Each tour site would include a parking area, a more extensive level of interpretive displays, and a short loop trail; interpretive programs would be concentrated in these areas. • Each tour site would present the role of the conflict and other key engagements in the two battles. Expanded interpretation at the key areas would discuss the overall story of the Civil War and the First and Second Battles. It could also include archeology, social history, and other related topics.

Table 2-2: Alternatives Summary

	Alternative A –No Action	Alternative B—The Two Battles of Manassas	Alternative C—The Defining Moments of the Battles
Management Prescriptions and Specific Actions	- Roads through the park would continue to remain open to heavy volumes of commuter and commercial truck traffic; although, park management would explore other options to reduce or eliminate this vehicular traffic. - A new entrance road and parking area for Brawner Farm would be constructed off of Pageland Lane. Access to the visitor contact station at Stuart's Hill would continue to be provided from Pageland Lane. - All wartime structures, as well as other important structures and sites (e.g., Henry House, L. Dogan House, Thornberry House, and Robinson House ruins) would be preserved. - The current pattern of open fields and wooded areas would remain, and only small components of altered historic landscapes would be rehabilitated. The historic landscape would be explained through interpretive displays. Extensive scene restoration would not occur. - Park offices would be retained in current locations.	- Roads through the park would be closed to heavy volumes of commuter and commercial truck traffic. - A new entrance road and parking area for Brawner Farm would be constructed off of Pageland Lane. The access road and parking area for the Second Manassas Visitor Contact Station on Stuart's Hill would be improved and expanded. - All wartime structures would be preserved; Brawner Farm, Henry House, Thornberry House, and the L. Dogan House would serve as important engagement sites, and the outline of the Robinson House would be ghosted. - Cultural landscape rehabilitation would reestablish major historic views and clear prominent battlefield sites. - Park offices would be retained in current locations. The maintenance area could be expanded in the future, and other park operations could be increased by adaptively reusing existing park structures. - Authorization would be sought from Congress for the park to expand its boundary to include four specific tracts of land: the Davis Tract, the Stonewall Memory Garden Tract, the Dunklin Monument area, and a three-quarter acre area that is owned by the Civil War Preservation Trust.	- Separate long interpretive loop hiking trails (5 miles each) would originate at the Stone Bridge and Brawner Farm, and would connect major engagement sites of each battle. The routes would follow existing trails and would enhance the visitor's understanding of the battles. Bridle trails would be separate from the interpretive loop hiking trails. - Roads through the park would be closed to heavy volumes of commuter and commercial truck traffic. - A new entrance road and parking area for Brawner Farm would be constructed off of Pageland Lane. - All wartime structures would be preserved; the Brawner, Henry, and L. Dogan houses and the Thornberry House would be retained as important sites and all structures would be upgraded to accommodate visitor use. - Cultural landscape rehabilitation would re-create a few important view corridors, but extensive scene restoration would not occur. - Park offices would be retained in current locations. The maintenance area could be expanded in the future, and other park operations could be increased by adaptively reusing existing park structures. Some of office/administrative functions could also be relocated to visitor's center at Stone Bridge. - Authorization would be sought from Congress for the park to expand its boundary to include four specific tracts of land: the Davis Tract, the Stonewall Memory Garden Tract, the Dunklin Monument area, and a three-quarter acre area that is owned by the Civil War Preservation Trust.

Table 2-3: Summary of Impacts of Implementing the Alternatives

Impact Topics	Alternative A Continuing Current Management Practices	Alternative B The Two Battles of Manassas	Alternative C The Defining Moments of the Battles of Manassas
Natural Environment Air Quality	Negligible, long-term, adverse impacts on air quality would persist. Cumulative impact on air quality would be moderate, short-term, and adverse.	Negligible, short-term, adverse impacts to air quality would occur during construction activities. A minor, long-term, adverse impact on air quality would occur outside the park from the redistribution of traffic. Cumulative impact on air quality would be adverse, and minor.	Negligible to minor, short-term, adverse impacts to air quality would occur during construction activities. A negligible, long-term, beneficial impact to air quality within the park would occur. A minor, long-term, adverse impact on air quality would occur outside the park from the redistribution of traffic. Cumulative impact on air quality would be adverse and minor
Soundscape	A moderate, long-term, adverse impact on the park's soundscape would persist. A moderate, long-term, adverse cumulative impact would occur.	A negligible, long-term, adverse impact on the soundscape would occur. Minor, short-term, adverse impacts on the soundscape would occur. Moderate, long-term beneficial impacts would result from traffic and transportation changes. No long-term cumulative impacts on noise would occur.	A moderate, long-term, beneficial impact on the soundscape would occur. Minor, short-term, adverse impacts on the soundscape would occur. Minor, short-term, cumulative impacts on noise would occur.
Vegetation and Wildlife	No to negligible, long-term, adverse impacts on vegetation and wildlife would occur. Moderate, long-term adverse cumulative impacts would occur.	Minor, short-term, adverse impacts would occur. A moderate, long-term, adverse cumulative impact would occur.	Minor, long-term, adverse impacts would occur. A moderate, long-term, adverse cumulative impact would occur.
Threatened, Endangered, and Rare Species and Natural Communities	No impact on threatened, endangered, or rare species or their habitats would occur. No cumulative impact would occur.	No adverse impacts on threatened, endangered, or rare species would occur. Minor long-term benefits would occur for some grassland species and minor long-term adverse impacts would occur for woodland species. There would be a small loss in habitat. No cumulative impacts would occur.	No adverse impacts on threatened, endangered, or rare species would occur. There would be a very small loss in habitat. No cumulative impacts would occur.
Water Resources (Water bodies, water quality, wetlands, and floodplains)	No adverse impacts on water resources would occur. No cumulative impact would occur.	Negligible adverse impacts on water resources would occur. No cumulative impact would occur.	Moderate, long-term, adverse impacts on water resources would occur. A moderate, long-term, adverse cumulative impact would occur.
Cultural Resources	- Few if any adverse effects to archeological resources would occur. If significant archeological resources could not be avoided during construction, impacts would be adverse. - There would be no adverse effects associated with the preservation and rehabilitation of historic structures and cultural landscapes or	- If archeological resources could not be avoided during construction, impacts would be adverse. - No adverse effect would be anticipated as a result of construction for a Second Manassas Visitor Contact Station. There would also be no adverse effects associated with preservation and rehabilitation of historic	- If archeological resources could not be avoided during construction, impacts would be adverse. - No adverse effect would be anticipated as a result of construction for a Second Manassas Visitor Contact Station. There would also be no adverse effects associated with preservation and rehabilitation of historic

Table 2-3: Summary of Impacts of Implementing the Alternatives

Impact Topics	Alternative A Continuing Current Management Practices	Alternative B The Two Battles of Manassas	Alternative C The Defining Moments of the Battles of Manassas
	construction of parking areas, loop trails, and interpretive displays. - Moving artifacts and archives to a facility outside the park would cause a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long term, and of minor to moderate intensity. - Any adverse cumulative impacts would be a small component of that cumulative impact.	structures and cultural landscapes or construction of small parking areas, loop trails, and interpretive displays. Restricting access to U.S. 29 and VA 234 would have a beneficial impact on historic structures and cultural landscapes. - Moving artifacts and archives to a facility outside the park would cause a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long term, and of minor to moderate intensity. - Any adverse cumulative impacts would be a small component of that cumulative impact.	structures and cultural landscapes or construction of small parking areas, loop trails, and interpretive displays. Restricting access to U.S. 29 and VA 234 would have a beneficial impact on historic structures and cultural landscapes. - Museum collections would continue to be adequately stored and protected. Moving artifacts and archives to a facility outside the park would cause a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long term, and of minor to moderate intensity. - Any adverse impacts would be a small component of the cumulative impacts.
Transportation/Traffic	Under alternative A, commuter and commercial traffic would continue to have major, long-term, adverse impacts on transportation within the park causing excessive delays and potential safety risks for motorists. No cumulative impact would occur.	The controlled access measures and removal of the U.S. Route 29 bridge over Bull Run proposed under alternative B would have a major, long-term, beneficial impact on transportation within the park because of the reduction in commuter and truck traffic in the park. A major, long-term, beneficial cumulative impact would occur.	The controlled access measures would have a major, long-term, beneficial impact on transportation in the park because of the reduction in commuter and truck traffic in the park. A major, long-term, beneficial cumulative impact would occur.
Socioeconomic Environment	No impacts to the existing social-economic environment would occur. No cumulative impact would occur.	Negligible, long-term, adverse impacts would occur for in-holders requiring access through the park. Negligible, long-term, adverse impacts to emergency response would occur. Minor, adverse cumulative impacts would occur.	Negligible, long-term, adverse impacts would occur for in holders requiring access through the park. Negligible, long-term, adverse impacts to emergency response would occur. Minor, adverse cumulative impacts would occur.
Recreation	No impacts to the existing recreation conditions would occur. No cumulative impact would occur.	Minor, long-term beneficial impacts would result from the enhanced recreational opportunities. A minor beneficial cumulative impact would occur.	Minor, long-term beneficial impacts would result from the enhanced recreational opportunities. A minor beneficial cumulative impact would occur.
Visitor Experience	Major, long-term adverse impacts would occur, due primarily to the conflicts between	The elimination of commuter and truck traffic, removal of the U.S. Route 29 bridge,	The elimination of commuter and truck traffic, removal of the existing U.S. Route 29

Table 2-3: Summary of Impacts of Implementing the Alternatives

Impact Topics	Alternative A Continuing Current Management Practices	Alternative B The Two Battles of Manassas	Alternative C The Defining Moments of the Battles of Manassas
	park visitors and non-park traffic. No cumulative impact would occur.	battlefield scene rehabilitation, and preservation and maintenance of historic structures would have a major, long-term, beneficial impact on the visitor experience. A moderate, beneficial, cumulative impact would occur.	bridge, battlefield scene rehabilitation, and preservation and maintenance of historic structures would have a major, long-term, beneficial impact on the visitor experience. A moderate, beneficial, cumulative impact would occur.
Park Operations and Maintenance	Minor, long-term, adverse impacts would occur. No cumulative impact would occur.	Moderate, long-term, adverse impacts would occur. No cumulative impact would occur.	Moderate, long-term, adverse impacts would occur. No cumulative impact would occur.

Affected Environment



INTRODUCTION

This chapter describes the existing environment of the Manassas National Battlefield Park and the surrounding region. This section focuses on describing the key park resources, uses, facilities and socioeconomic characteristics, the necessary background and setting information for the study team to determine the likely affects of the proposed actions that are described in the Environmental Consequences section. Some features are also discussed because they provide context, and/or must be considered in environmental impact statements.

The affected environment section is general in nature because of the programmatic nature of

this study. There are many sources from which more detailed information can be obtained on the natural, cultural, and human environment of Manassas National Battlefield Park. Many of these sources were used in the preparation of this *General Management Plan/Environmental Impact Statement*. Additional information on the park resources can also be found on the Manassas National Battlefield Park homepage at <http://www.nps.gov/mana> and in the *Manassas National Battlefield Park Bypass Existing Conditions Report* (FHWA, 2003) prepared by the Federal Highway Administration.

NATURAL ENVIRONMENT

AIR QUALITY

National Ambient Air Quality Standards for certain major air pollutants, including sulfur dioxide, nitrogen oxides, particulate matter, ozone, carbon monoxide, and lead, were established under the 1970 Clean Air Act Amendments. Areas in the United States, which meet or exceed these standards, are known as attainment areas. Areas in which the standards are not met are known as nonattainment areas. Manassas National Battlefield Park is in Virginia Air Quality Control Region VII, which is in severe nonattainment for ozone (the region is in attainment for the other pollutants). Section 118 of the Clean Air Act requires federal facilities such as the Manassas National Battlefield Park to comply with all federal and state air quality standards and regulations, while Section 176 of the Act requires federal facilities to conform to state programs designed to attain and maintain those standards.

The 1977 Clean Air Act Amendments established a program to preserve, protect, and enhance the air quality in certain areas of the United States. One hundred and fifty-eight of those areas, including national parks over 6,000 acres and wilderness areas over 5,000 acres, were designated mandatory Class I areas with little additional air pollution permitted over baseline concentrations. Stringent air quality standards, known as increments, were established for those areas for certain air pollutants, including sulfur dioxide, nitrogen oxides, and particulate matter, from new or modified existing major stationary sources. The nation's remaining areas, such as Manassas National Battlefield Park, are Class II areas. The Clean Air Act established less stringent increments for those areas for the three pollutants cited above.

The major source of air pollution within the park is vehicle emissions. However, the major sources of regional air pollution are outside the park and include stationary sources in the surrounding counties, motor vehicle use in the

region, and other sources in the Washington, D.C. metropolitan area. Historically significant views and the visual setting are integral to the visitor experience and can be diminished by air pollution.

SOUNDSCAPE

National Park Service's *Management Policies 2001* and Director's Order 47 "Soundscape Preservation and Noise Management" recognize natural soundscapes as a park resource and call for the National Park Service to preserve natural soundscapes. Presently, the soundscape and noise levels at the park are greatly influenced by vehicular and truck traffic on U.S. Route 29, VA Route 234, and I-66.

The National Park Service conducted a traffic noise and vibration assessment in 1996. The vibration assessment looked at the effects of vibration from the vehicular traffic on the park resources such as the Stone House, and the traffic noise assessment examined the effect of traffic on the visitor experience. The study found that the risk to the building resulting from damage caused by traffic-induced vibration is small (Peccia, 1996).

In contrast, the noise assessment stated that the existing traffic noise levels create noise impacts serious enough to consider noise abatement at several of the key visitor sites at the park (Peccia, 1996). When noise levels were compared to land-use compatibility guidelines, many of the park's resources would be discouraged from use as sites for cultural activities because of existing noise levels.

VEGETATION AND WILDLIFE

Vegetation

The park's vegetation is a patchwork of open fields and a range of forest communities representing different successional stages and ecological conditions. The open fields are maintained through agricultural leases and mowing by park personnel. Many of these

grasslands contain native grass communities, particularly Indian grass-little bluestem. Grasslands cover about 35 percent of the park. The forest communities, which cover approximately 50 percent of the park, are primarily deciduous stands of oak-hickory, pine/cedar forest, mixed pine/hardwood stands, and bottomland hardwood stands.

The Virginia Department of Conservation and Recreation, Division of Natural Heritage completed a vascular plant inventory of Manassas National Battlefield Park in March 2001. The species list was added to the Virginia Biological and Conservation Data System. Of over 700 taxa inventoried in the park, 124 are invasive, exotic species.

The coniferous forest (mainly pine/cedar community) is in a successional stage of growth that developed from previously open fields and is characterized by Virginia pine (*Pinus virginiana*), eastern red cedar (*Juniperus virginiana*), and shortleaf pine (*Pinus echinata*). The mixed forest is in a transitional stage that occurs in comparatively small, scattered stands. Oak-hickory dominates the deciduous forest in upland areas and represents the climax growth stage in the park. Stands are often more than 100 years old and commonly consist of white oak (*Quercus alba*), northern red oak (*Quercus rubra*), black oak (*Quercus velutina*), white ash (*Fraxinus americana*), and hickory (*Carya sp.*).

Floodplain bottomland forests, found primarily along Bull Run, represent old undisturbed forests with many mature floodplain trees. Tree species include pin oak (*Quercus palustris*), swamp white oak (*Quercus bicolor*), green ash (*Fraxinus pennsylvanica*) and American elm (*Ulmus americana*). Various bottomland hardwoods also occur along the riparian fringe of tributary streams. Small patches of loblolly pine (*Pinus taeda*) and eastern white pine (*Pinus strobus*) occur on somewhat drier slopes and bluffs (VDCR DNH, 2001). Map 3-1 depicts the historic vegetative communities that existed at the time of the Battles of Manassas.

Wildlife

To date, park staff has documented 168 bird, 26 mammal, 23 reptile, and 19 amphibian species within the park. The NPS maintains a current list of species known or likely to use the habitat of the park. More detailed information can be found on the park's website at <http://www.nps.gov/mana/pphtml/managementdocuments.html>. Common species known to occur in the park include whitetail deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), beaver (*Castor canadensis*), and many species of songbirds.

Within Manassas National Battlefield Park, mammals are protected from hunting pressure and surrounding urban development. The fragmented forests interspersed with shrubs and meadows are good habitats for mammals such as eastern fox squirrels, eastern chipmunks, eastern cottontails, short-tailed shrews, and the eastern mole. Some are more specialized in their habitat needs, like the red fox, which prefers open, shrubby, and brushy areas. White-tailed deer are among the most prominent mammals in Manassas National Battlefield Park. Numerous amphibians and reptiles also can be found in the park near vernal pools, small depressions and other wetlands. Spring peepers, wood frogs, and spotted and marbled salamanders are other amphibians commonly found in the park.

Neotropical migratory birds are species that nest in North America during the spring and summer months and migrate south as far as Mexico, the Caribbean, or Central and South America for winter. Some birds are considered short-distance migrants, with some individuals migrating to the southern U.S. and others remaining on the breeding grounds. Resident or short-distance migrants in the park include species such as the American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), and common grackle (*Quiscalus quiscula*).

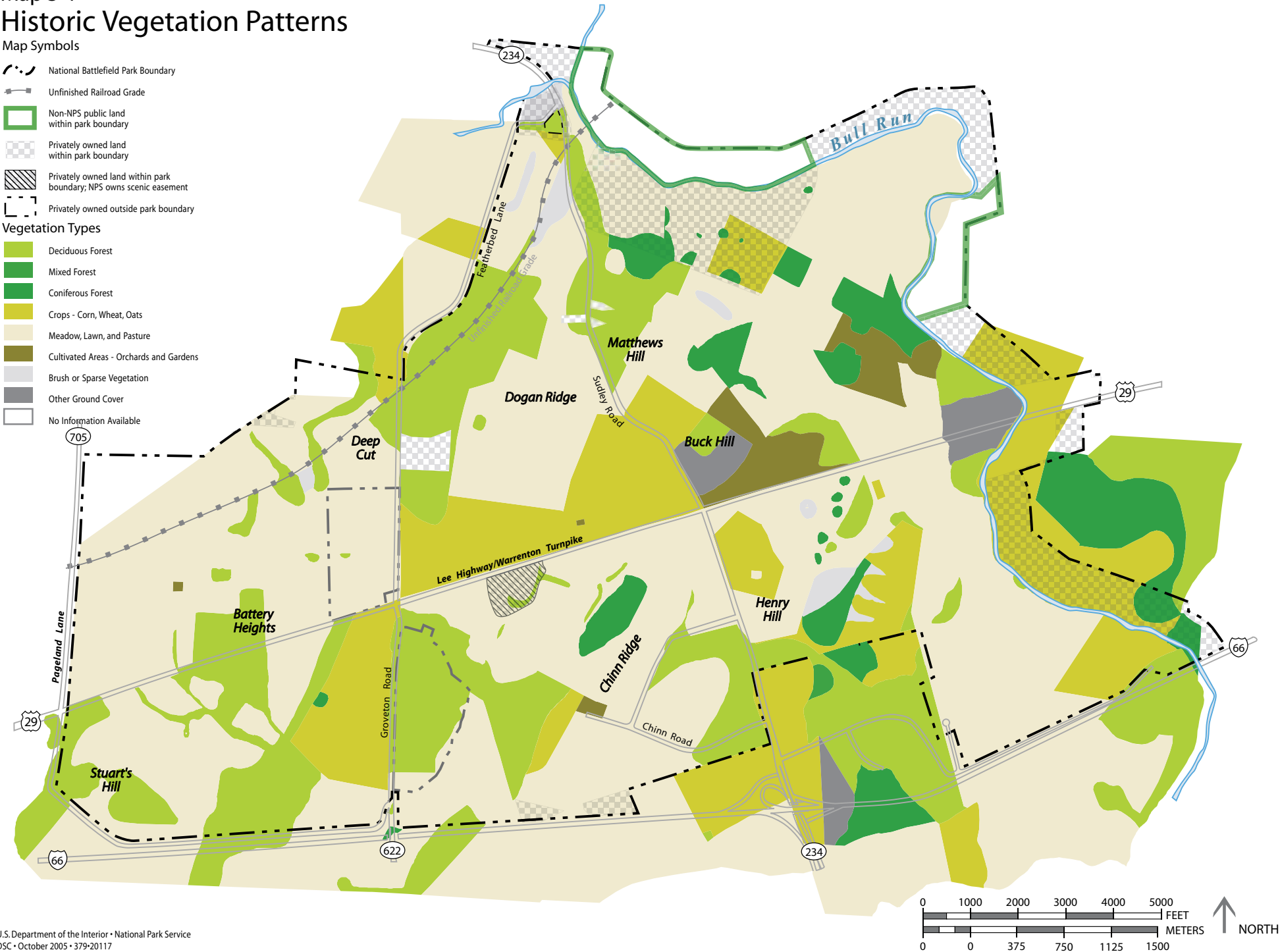
Map 3-1 Historic Vegetation Patterns

Map Symbols

- National Battlefield Park Boundary
- Unfinished Railroad Grade
- Non-NPS public land within park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned outside park boundary

Vegetation Types

- Deciduous Forest
- Mixed Forest
- Coniferous Forest
- Crops - Corn, Wheat, Oats
- Meadow, Lawn, and Pasture
- Cultivated Areas - Orchards and Gardens
- Brush or Sparse Vegetation
- Other Ground Cover
- No Information Available



Neotropical migrants are adapted to a wide range of breeding habitats, from early successional grasslands, open fields, and shrublands to mature forests. Some species prefer early edge habitats such as boundaries where open fields abut forests. Edge species known to inhabit areas of the park near potential historic landscape modifications include the eastern meadowlark (*Sturnella magna*), prairie warbler (*Dendroica discolor*), indigo bunting (*Paserina cyanea*), grasshopper sparrow (*Ammodramus savannarum*), yellow-breasted chat (*Icteria virens*), American goldfinch (*Carduelis tristis*), barn swallow (*Hirundo rustica*), and eastern bluebird (*Sialis sialis*). Other species typically found in edge or forested areas include the common yellow-throat (*Geothlypis trichas*), American robin (*Turdus migratorius*), cedar waxwing (*Bombycilla cedrorum*), eastern wood pewee (*Contopus virens*), and chimney swift (*Chaetura pelagica*).

Other species are adapted to the forest interior and primarily nest away from edges in the deep forest. Many of these forest interior species require large (>375 acre) contiguous tracts of forest for breeding and few are found in smaller forest stands of less than 25 acres (USFS 1996, 1992). Only a few forest interior species are known to occur in the areas of potential landscape modification. These include the scarlet tanager (*Piranga olivacea*), Acadian flycatcher (*Empidonax virescens*), blue-gray gnatcatcher (*Poleoptila caerulea*), and wood thrush (*Hylocichla mustelina*). These four species are area-sensitive species that are more common in larger rather than smaller wooded areas and may not successfully breed in small patches of otherwise suitable habitat. Although these birds are considered forest interior species, they do occur in less than optimum conditions and can be found in areas other than forest interior habitat.

Threatened, Endangered, and Rare Species and Natural Communities

Manassas National Battlefield Park is classified under the Piedmont Region, Culpeper Basin. This Triassic basin historically supported a number of plants now considered rare by the

Commonwealth of Virginia. Since settlement by Europeans, the original grasslands in Prince William County that supported these now scattered populations have been eliminated by agriculture, suppression of natural fires, and construction. In recent years, large portions of the Triassic basin in Prince William and surrounding counties have been subjected to intensive development pressure as the metropolitan Washington, D.C. area has expanded westward. As a result, many of the natural areas in the surrounding region have been destroyed, and the park is increasingly becoming a natural oasis as development in the region increases.

In 1997-8, the Virginia Department of Conservation and Recreation's Division of Natural Heritage inventoried Manassas National Battlefield Park for rare, threatened, and endangered species and significant natural communities. According to that report, Manassas National Battlefield Park is "one of the region's most unspoiled areas" (VDCR DNH, 1998). The rare and significant habitats that occur in Manassas National Battlefield Park are the upland depression swamp forest, oak-hickory forest (both threatened elsewhere in Virginia due to development), eastern white pine forest, and piedmont mountain swamp forest.

A further state Division of Natural Heritage study, completed in 1997, inventoried potential habitats within the park for threatened, endangered, and rare species and significant natural communities. This inventory found no federally or state-listed threatened or endangered species. Similarly, the 1997 vascular plant inventory found no federal or state endangered species.

However, some rare plants do occur in Manassas National Battlefield Park. The DNH studies identified 13 occurrences of state-listed rare plants associated with diabase or metasiltstone substrates, including four each of Appalachian quillwort (*Isoetes appalachiana*) and marsh hedgenettle (*Stachys pilosa* var. *arenicola*), two each of blue hearts (*Buchnera americana*) and hairy beardtongue (*Penstemon hirsutus*), and one of buffalo clover (*Trifolium*

reflexum). Other rare species documented include Mead's sedge (*Carex meadii*), hoary puccoon (*Lithospermum canescens*), and purple milkweed (*Asclepias purpurascens*).

The populations of Appalachian quillwort were in found small, shallow intermittent streams. Hairy beardtongue, blue-hearts, and marsh hedgenettle are associated with open habitats. The park contains the majority of the known Virginia populations of marsh hedgenettle. Buffalo clover is characteristic of prairies and savannas west of the Appalachians and was found in an open canopied Virginia pine stand.

The state Division of Natural Heritage also found six occurrences of communities considered rare or significant. Three occurrences of basic oak-hickory forest, covering about 72 acres, were found in the western portion of the park on diabase uplands. These stands are classified as white oak/eastern redbud/bottlebrush grass-cliff muhly. This community type is uncommon to rare in Virginia and is highly threatened due to widespread destruction by development in its primary northern Virginia range. Also found were one occurrence each of upland depression swamp, eastern white pine forest, and Piedmont/mountain swamp forest.

The upland depression swamp comprises about three acres of seasonally flooded wetland south of Battery Heights. This community type is also uncommon to rare in Virginia and is threatened due to widespread destruction by development in its primary northern Virginia range. The eastern white pine forest community consists of a 10 to 15 acre stand of mixed eastern white pine, eastern hemlock, and oaks on a steep bluff overlooking Bull Run. This forest type is significant due to the type's rarity in the Piedmont. The Piedmont/mountain swamp forest covers about 40 acres on the alluvial floodplain of Bull Run. The dominant canopy species is pin oak. Pin oak swamps are rare in Virginia, although they are locally common in the northern Virginia Triassic basin.

While no federally listed, proposed, and candidate threatened or endangered species were known to exist in the park, the U.S. Department of the Interior, Fish and Wildlife Service provided information about threatened and endangered species in Loudoun, Fairfax, and Prince William Counties. The information provided by the Department of the Interior is reproduced in Appendix E: Threatened, Endangered, and Rare Species and Natural Communities.

Bald eagles (*Haliaeetus leucocephalus*) may occasionally be seen, but are transient in the area. A number of rare invertebrate species are known to exist in Prince William County and may potentially occur in the park. Three of these species are state or federal species of concern or state listed. They include two mussels: the state endangered brook floater (*Alasmidonta vericosa*) and the yellow lance (*Elliptio lanceolata*), and a butterfly species of concern: the regal fritillary (*Speyeria idalia*). Other potential rare invertebrates include several aquatic species of amphipods, clubtails, and a stonefly.

WATER RESOURCES (WATER BODIES, WATER QUALITY, WETLANDS, AND FLOODPLAINS)

The park is within the Chesapeake Bay watershed, and its main watercourse is Bull Run, which forms most of the park's eastern boundary. The primary stream within the park is Youngs Branch, which meanders south and east through the park, eventually draining into Bull Run. The Youngs Branch watershed is approximately 3,000 acres, most of it within the park boundary. The main tributary of Youngs Branch begins near Brawner Farm as an intermittent stream. As it flows eastward, it joins with other tributaries including Dogan Branch and Chinn Branch to become a perennial stream. As stream flow increases, the 100-year floodplain widens as permitted by the adjoining terrain. Bull Run has a primarily wooded, asymmetrical 100-year floodplain bounded by adjacent bluffs. Wetlands in the park are typically found along the park's bodies of water. Map 3-2 shows the location of

the streams, ponds, and wetlands at Manassas National Battlefield Park.

There are ten farm ponds scattered throughout the park. Most of these ponds were formed from the installation of small earthen dams on small streams. All dams are classified as downstream, low hazard potential, minor size. In the late 1990s, the park took corrective actions to repair many of the dams. Today, the dams are fixed and are in good condition.

A water quality investigation was conducted for the park in 1995 (Wyatt Group, 1995). All streams sampled were reported to be within acceptable levels, although some stream bank erosion was noted and occasional high levels of fecal coliform were noted after rain. It is the park's practice to plant native species of vegetation in areas where stream bank stability is less than desired. Otherwise, the park maintains bank stability by protecting existing riparian buffer areas. Farm ponds and beaver ponds were noted to have beneficial effects on stream health by removing sediments.

Additional data were collected and presented in the *Baseline Water Quality Data Inventory and Analysis Report* (1997). The park has recently initiated a basic water quality monitoring program to analyze trends in water quality.

In summer of 1997, the park began a cooperative arrangement with the Audubon Naturalist Society. Since that time the park and the Audubon Society have collected data on water quality and macro-invertebrate diversity while conducting water quality workshops within the park. Preliminary data for Youngs Branch indicates poor diversity within the stream, attributed to high water temperatures caused by poor canopy cover, sediment run-off, and marginal bank stability caused by high storm flows. Lack of a woody buffer along the stream may also have contributed to weak stream banks. Increased flows are probably the result of increased development outside the park.

Water quality monitoring, conducted when possible by the regional water resources division, collects a large amount of data, including water temperature, air temperature, depth of stream, flow rate, specific conductance, oxygen dissolved, pH, salinity, alkalinity, nitrite, phosphorus, ammonia, carbon dioxide, and chloride. This water chemistry data along with macroinvertebrate information allows the park to better evaluate stream health.

The National Park Service officially recognizes the wetland definition used by the United States Fish and Wildlife Service as outlined in *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS 1979).

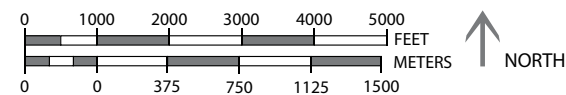
The National Wetland Inventory map (Manassas Quadrangle dated 1983) was reviewed to identify known wetlands at the park. The watercourses in the park, including the adjacent riparian and bottomlands as well as ponds, are classified as various types of wetlands. Palustrine forested wetlands at the park include the floodplain bottomland forests, found primarily along Bull Run. They represent old undisturbed forests with many mature floodplain trees. Species generally include pin oak, swamp white oak, green ash, and American elm.

Two forested wetland systems worthy of special consideration have been identified at the park, including an upland depression swamp and Piedmont/mountain swamp forest. The upland depression swamp comprises about three acres of seasonally flooded wetland south of Battery Heights. The Piedmont/mountain swamp forest covers about 40 acres on the alluvial floodplain of Bull Run (DCR DNH, 1993). Various bottomland hardwoods also occur along the riparian fringe of tributary streams. Small palustrine emergent wetlands also exist sporadically around the park, and they are generally associated near the small ponds or swales at the lower elevations.

Map 3-2 Existing Water Resources and Wetlands

SYMBOL KEY

-  National Battlefield Park Boundary
-  National Battlefield Park Land
-  Unfinished Railroad Grade
-  Non-NPS public land within park boundaries
-  Privately held land within park boundaries
-  Privately held land within park boundaries; NPS holds scenic easement
-  Privately owned land outside park boundary
-  Streams
-  Ponds
-  Wetlands



CULTURAL ENVIRONMENT

Twice in two years, major armies of the United States and the Confederate States met in combat at Manassas. The First Battle of Manassas (July 21, 1861), the war's first major land battle, ended in a stunning Confederate victory that shattered hopes for a short and easy war. Thirteen months later, the Second Battle of Manassas (August 28-30, 1862), a battle four times larger than the first, brought another Southern triumph and gave Confederate forces their greatest opportunity for strategic success.

Manassas National Battlefield Park, established in 1940, preserves important portions of these two overlapping battlefields and the sites associated with them. The cultural resources related to the Civil War that comprise the park survive today as evocative reminders of the nation's fratricidal struggle. The following is a brief description of the cultural resources. More information on each site can be found in Appendix A: Description of Resources Areas and Appendix B: Description of the Battle Events.

HISTORIC STRUCTURES

Manassas National Battlefield Park was listed on the National Register of Historic Places on October 15, 1966, as part of that year's National Historic Preservation Act. The nomination form to follow up on that designation was submitted in 1981. In 2004, the park superintendent submitted a revised concurrent nomination to the Virginia State Historic Preservation Office, to reflect the new park areas added since the 1981 document, and to add non-park land to the National Register boundaries. The nomination has not been approved by the National Register to date.

The revised 2004 form lists 62 contributing structures, monuments, and sites as contributing to the park's significance. These include houses, farms, and Civil War memorials as well as landscape features such as roads, woodlands, and fields important in shaping the battles' events.

The List of Classified Structures (LCS) is an inventory of contributing historic structures that gives guidance to the planning process by providing an inventory and list of treatment measures for these structures. At Manassas National Battlefield Park, 33 structures, including monuments, roads, houses, and a bridge, have been listed on the LCS. Twenty-six of these have been designated as structures that must be preserved and maintained. Another five structures have been categorized as resources that should be preserved and maintained. Two other structures were classified as those that may be preserved or maintained. Map 3-3 highlights the resources included on the park's LCS.

Among the battlefield's historic structures, the Stone House and the Lucinda Dogan House merit special attention as the park's only wartime buildings rehabilitated to their 1860s appearance. Within the park, only one other building, the Thornberry House, dates to the time of the battles, albeit with some alteration. Meanwhile, several other buildings, including the Henry House, John Dogan House, and Brawner Farm House, serve to mark the locations of Civil War period dwellings and function as aids to interpretation.

In addition to the battle-related resources, the park contains a small, but appreciable, number of commemorative features that postdate the fighting. The Henry Hill area includes several monuments and markers. These include the remains of a wartime monument to Confederate Colonel Francis Bartow—which is perhaps the earliest Civil War monument anywhere—and an equestrian statue honoring Confederate General Thomas J. “Stonewall” Jackson, who received his *nom de guerre* nearby. Other prominent monuments include a pair of sandstone obelisks erected by Union veterans in 1865—one on Henry Hill and one adjacent to the Deep Cut—and three monuments commissioned by the State of New York to honor the 5th and 10th New York and the 14th Brooklyn regiments near Groveton.

Those examples notwithstanding, monuments are not extensive at Manassas National Battlefield Park. The park contains less than 20 formal monuments and troop markers scattered across the battlefield. The largest postwar commemorative feature on the battlefield landscape is the Groveton Confederate Cemetery, which contains the remains of more than 260 Confederate dead from the two battles.

CULTURAL LANDSCAPES

In 1996, the National Capital Region of the National Park Service conducted a series of three cultural landscape inventories of different parts of the park. These inventories did not include the Stuart's Hill tract, which had previously been studied by the University Of Georgia School Of Environmental Design. This latter effort produced a cultural landscape rehabilitation report. Each study included a reconnaissance section that identified the scope of the cultural landscape, what is known about the resource, and future research needs. Each study also contained an analysis and evaluation section, which provided a site history of the landscape development; defined the characteristics that contribute to the historic character of the landscape; and identified the individual features associated with those characteristics.

The historic battlefield landscape constitutes the park's most important resource and provides the setting for understanding the events of the Civil War battles fought here. Although the ground cover has changed in some areas, the terrain remains largely unaltered, and key landscape features survive. Within the battlefield landscape are numerous resources that contribute to the parks significance, including historic buildings, archeological sites and ruins, remnants of historic fence lines, cemeteries and burial sites, traces of wartime roads and farm lanes, the reconstructed Stone Bridge, and the graded bed of the Unfinished Railroad.

ARCHEOLOGICAL RESOURCES

Archeological surveys have been carried out in several sections of the park, but no comprehensive park survey has been undertaken. The surveys that have been completed are, for the most part, related to park development projects or specific park research requirements. Since the early 1980s, surveys of selected areas of the park have identified 95 archeological sites. Of these sites, more than two-thirds are in "good" condition. These surveys reveal that the park contains a variety of prehistoric and historic resources.

A park-wide survey of all archeological sites is necessary to identify and evaluate the park's archeological resources and to provide park management with the information necessary to ensure that such resources are protected, conserved, and managed appropriately. Such a survey is also necessary to ensure that park management decisions do not inadvertently impact archeological resources.

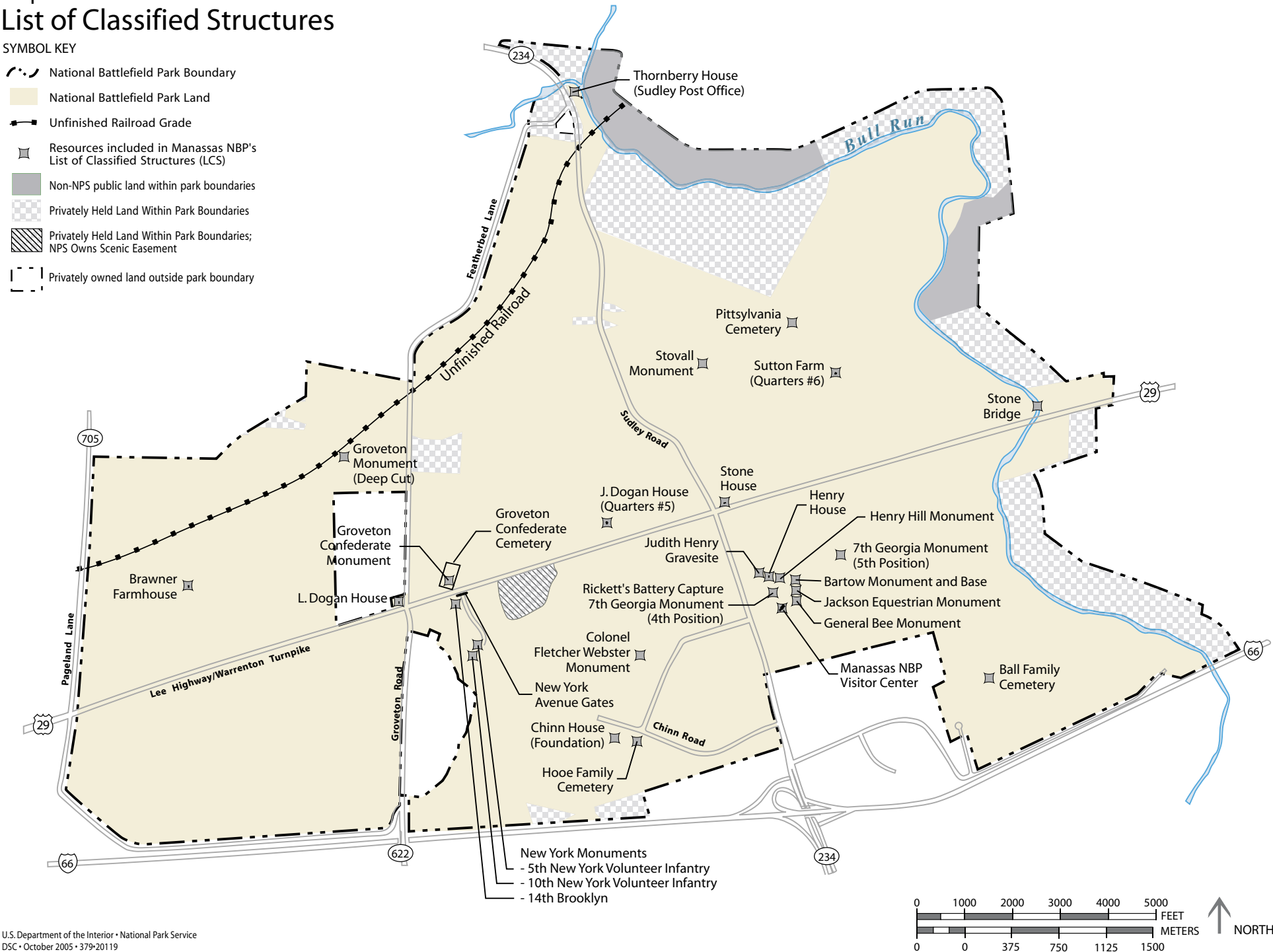
Archeological resources dot the historic landscape and provide evidence of the impact of war on the local community. Physical remains of antebellum plantations, modest farmsteads, slave quarters, and outbuildings combine to demonstrate the complexity of the rural, agricultural setting of the battles and help to delineate the historic scene. In addition to the many ruined house sites, traces of earthworks scattered along Bull Run, remnants of soldiers' huts, and depressions from disinterred battlefield burials are among the archeological features that call to mind the convulsive events of the 1860s.

Nearly all the recorded prehistoric sites need further fieldwork, as there is little available information. One potential prehistoric research issue is the development of a context of lithic scatters, which are common prehistoric resources within the park boundaries (Little, 1995). Another issue of historical archeological interest concerns the life of African-Americans before and after the battles and the Civil War (Little, 1995).

Map 3-3 List of Classified Structures

SYMBOL KEY

- National Battlefield Park Boundary
- National Battlefield Park Land
- Unfinished Railroad Grade
- Resources included in Manassas NBP's List of Classified Structures (LCS)
- Non-NPS public land within park boundaries
- Privately Held Land Within Park Boundaries
- Privately Held Land Within Park Boundaries; NPS Owns Scenic Easement
- Privately owned land outside park boundary



MUSEUM COLLECTIONS AND ARCHIVES

Original documents and historic artifacts relating to the First Battle of Manassas, the Second Battle of Manassas, and the families and farms impacted by these battles constitute the primary focus of the collection and material for museum exhibits housed in the Henry Hill Visitor Center and Second Manassas Visitor Contact Station. The collection also includes 40 cannon tubes displayed on reproduction carriages and distributed at battery sites throughout the park. These museum collections are used as part of the visitor center's and Visitor Contact Station's role as orientation points. The museum elements visible to the public are selected to match and enhance the other orientation displays at these facilities, and are also tied to the interpretive elements and cultural landscape of the battlefields themselves.

Less than one percent of the more than 165,000 objects in the park's growing museum collections are ever on exhibit. The remainder of these objects is kept in on- and off-site storage facilities. The bulk of the archeological and architectural material and furnishings is maintained at the Museum Resource Center, a regional storage facility in Landover, Maryland. Due to limited

on-site storage space at the Henry Hill Visitor Center, only the less bulky objects that directly support the park's primary interpretive themes and offer the greatest research value can be maintained at the park.

One full-time museum specialist is responsible for managing the park museum collections in accordance with established NPS standards. If needs are beyond the limits of training, experience, and available equipment and facilities, the museum specialist coordinates conservation measures with professional conservators. There is no dedicated space for conservation lab work, photography, or exhibit preparation. Additional space is currently maintained at Stuart's Hill for the storage and processing of archival materials in the collection.

The present on-site museum collections and archive facilities are nearing capacity. The anticipated growth of the collection will eventually necessitate more museum objects being stored off-site at the Museum Resources Center, as well as a need for additional space to accommodate museum records and electronic media. For the reasons listed above, this document will study Museum Collections and Archives in more detail.

TRANSPORTATION/TRAFFIC

ROADWAY CHARACTERISTICS

Manassas National Battlefield Park is just north of I-66, surrounding the intersection of U.S. Route 29 and VA Route 234. This location places the park within the heavily populated Washington, D.C. metropolitan area, and along a major transportation corridor that serves the increasingly developed hinterland of northern Virginia. U.S. Route 29 and VA Route 234 are two regional highways that run east west and north south, respectively, within the Manassas National Battlefield Park. Both of these roads are two lane facilities, except for U.S. Route 29, which becomes a multilane divided highway in the western portion of the park. The two highways meet at a signalized intersection in the center of the park. Currently these highways are used by park visitors, commuters, and other regional travelers.

As part of the Bypass Study, the Federal Highway Administration completed the Existing Conditions Report that details the transportation conditions of the park and surrounding area. This *General Management Plan/Environmental Impact Statement* is a programmatic study, and is therefore more general in nature. For more detailed information on roadway capacity and levels of service on the roadways and intersections in and adjacent to the park, please refer to the Bypass Study (FHWA, 2005). Map 3-4 shows the roads and trails in the Manassas National Battlefield Park.

TRAFFIC COUNTS AND LEVEL OF SERVICE

Traffic counts collected as part of the Bypass Study's Existing Conditions Report indicate that U.S. Route 29 carries between 9,000 and 13,200 vehicles per day, and VA Route 234 carries between 9,800 and 14,100 vehicles per day (FHWA, 2002). The existing corridor levels of service and average daily traffic are shown in Table 3-1. While definitive data are

Table 3-1. Level of Services for U.S. Route 29 and Virginia Route 234 Corridors

Road Segment	Levels of Service		Average Daily Traffic
	AM	PM	
U.S. Route 29 East of VA Route 234	F	F	13,166
U.S. Route 29 West of VA Route 234	E	E	9,089
VA Route 234 North of U.S. Route 29	E	E	9,815
VA Route 234 South of U.S. Route 29	E	E	14,079
<i>Source: Manassas National Battlefield Park Bypass Study Draft EIS (FHWA, 2005).</i>			

not available, anecdotal observations indicate that as much as 95 percent of this traffic volume is attributable to “through” trips—those that do not include a stop in the park itself.

The traffic capacity analyses were performed by FHWA based on the procedures specified by the *Transportation Research Board special Report 209: Highway Capacity Manual, 1997*. Level of service is a qualitative rating of the effectiveness of a highway or highway facility in serving traffic, in terms of operating conditions. The *Highway Capacity Manual* identifies operating conditions ranging from A, for best operations (low volume and high speed) to F, for worst conditions. The Levels of Service used for signalized intersections in the Bypass Study are summarized below:

- LOS A describes operations with less than 10.0 seconds.
- LOS B describes operations with average delay in the range of 10.1 to 20.0 seconds per vehicle.
- LOS C describes operations with delay in the range of 20.1 to 35.0 seconds per vehicle. Individual cycle failures (where all waiting vehicles do not clear the intersection during a single green time) may begin to appear at this level. This is generally considered the lower end of the range of the acceptable level of service in rural areas.

Map 3-4 Existing Circulation Facilities

Circulation Legend

- National Battlefield Park Boundary
- National Battlefield Park Land
- Parking Area
- Horse Trailer Parking Area
- Unfinished Railroad Grade
- Historic House Site
- Preserved war time structure
- Other historic site
- First Manassas Trail
- Second Manassas Trail
- Henry Hill Loop Trail
- Other Walking Trails
- Bridle Trails
- Non-NPS public land with park boundary
- Privately owned land within park boundary
- Privately owned land within park boundary; NPS owns scenic easement
- Privately owned land outside park boundary



- LOS D describes operation with delay in the range of 35.1 to 55.0 seconds per vehicle. Individual signal cycle failures are noticeable. This is generally considered the lower end of the range of acceptable levels of service in urban areas.
- LOS E describes operations with delay in the range of 55.1 to 80.0 seconds per vehicle. Individual cycle failures are frequent occurrences. LOS E has been set as the limit of acceptable conditions (at capacity).
- LOS F describes operations with average delay in excess of 80.0 seconds per vehicle. There are many individual cycle failures. This LOS is considered to be unacceptable to most drivers.

The intersection of U.S. Route 29/VA Route 234 operates at Level of Service F during both the morning and evening peak hours. The intersection has a delay in excess of 80 seconds per vehicle, which is considered to be unacceptable to most drivers. The volume of commuters and other through traffic using routes within the park has become a serious detriment to the quality of the visitor experience the park can provide. The mix of pedestrian and vehicle traffic, as well as the mix of slower recreational traffic and higher speed through traffic also poses safety hazards for park visitors.

SAFETY

A transportation study for the park was completed in June 1996. This study found that most vehicular accidents within the park occur on U.S. Route 29 and VA Route 234, while relatively few accidents occur on other internal park roads. The accident rates on U.S. Route 29 and VA Route 234 are comparable to those of similar roads in Prince William County. The study also identified the signalized intersection at U.S. Route 29 and VA Route 234 as being problematic and a safety concern because the intersection is operating at capacity during the morning, noon, and evening peak travel periods. Erratic vehicular movement associated with the traffic congestion was cited as the primary safety concern (Peccia, 1996). Another safety concern is potential conflicts of pedestrians or bicyclists with the heavy vehicular traffic on U.S. Route 29 and VA Route 234. Presently, a number of the park's trails cross U.S. Route 29 and VA Route 234.

EMERGENCY RESPONSE

To respond to serious incidents, the National Park Service relies on local emergency services. Emergency response to Manassas National Battlefield Park is provided by local fire departments and emergency response facilities. The park is served primarily by Stonewall Jackson Volunteer Fire Department, Station 11, at 7814 Garner Drive in Manassas. The station is approximately 1.7 miles from the park's southern entrance on VA Route 234 and approximately 3 miles from the central area of the park—the intersection of U.S. Route 29 and VA Route 234. The response time to this location is approximately 5 minutes, but could be greater depending on traffic congestion on the roads. The station is equipped with ambulances and fire engines (Pomeroy 2003a).

The western end of the park is served by the Prince William County Gainesville District Volunteer Fire Department, Station 4, at 14450 John Marshall Highway (State Highway 55). The station is approximately 3 miles from the western entrance of the park on U.S. Route 29. The response time to the central area of the park is 7 to 12 minutes. The station is equipped with ambulances, fire trucks, and a rescue squad (Pomeroy, 2003b).

Emergency response may also be provided by the West Centreville Volunteer Fire Department Station 38, at 6001 O'Day Drive in Centreville. The station is approximately 3 miles from the eastern access on US Route 29. The station is equipped with ambulances and fire trucks.

The park falls within the jurisdiction of the National Capital Region Museum Emergency Response Team (MERT). This group, composed of experts in cultural resource management, is prepared to respond quickly to regional incidents, such as natural disasters or special events, which may threaten or endanger our museum collections, both cultural and natural, and associated historic structures and archeological sites.

SOCIOECONOMIC ENVIRONMENT

POPULATION

Due to the park's location in Prince William and Fairfax Counties and near Loudoun County, the local economic region is comprised of these counties plus Arlington County and the independent cities of Alexandria, Fairfax City, Falls Church, Manassas, and Manassas Park.

As of April 2000, Fairfax County's population was 969,749 (Census, 2000). Its population is now believed to have surpassed one million. From 1990 to 2000, Fairfax County's population increased by 18.5 percent. White individuals make up 69.9 percent of the population, followed by Asians at 13 percent, African American individuals at 8.6 percent, with American Indians and Native Hawaiians and Other Pacific Islanders making up the remaining 8.5 percent. Individuals 65 years old and over comprise 7.9 percent of the population.

Loudoun County's population increased by 96.8 percent from 1990 to 2000, and as of the 2000 census has a population of 169,599. White individuals make up 82.8 percent of the population, followed by African Americans at 6.9 percent, with Asians, American Indians, and Native Hawaiians and Other Pacific Islanders making up the remaining 10.3 percent. Individuals 65 years old and over comprise 5.6 percent of the population.

Prince William County's April 2000 population was 280,813. From 1990 to 2000, Prince William County's population increased by 30.6 percent. White individuals make up 68.9 percent of the population, followed by African Americans at 18.8 percent. American Indians, Asians, and Native Hawaiians and Other Pacific Islanders make up the remaining 12.3 percent. Individuals 65 years old and over comprise 4.8 percent of the population.

Based on the review of the Prince William County Geographic Information Systems information and aerial photography, there are approximately 70 to 75 residential homes that are within the park boundaries or that require

access through the park boundaries to access their property. The Bypass Study identified 37 private in-holdings in Prince William County and 17 private in-holdings in Fairfax County (FHWA, 2002). In addition to the in-holdings, which refer to privately owned properties that are either fully or partially located within the legislative boundaries of the park, there are approximately 20 additional private landowners that require use of state and U.S. routes in the park to access their properties.

ECONOMY³

In terms of earnings, the service sector of the economy is by far the most important for the local region and the state as a whole. The closer to Washington, D.C., the more important the federal government sector becomes to a city/county area. Between 1999 and 2000 median household income in Virginia increased by 4.3 percent to \$46,789. In Prince William County, income increased by 6.9 percent, to \$67,466, while Fairfax County income increased 8.1 percent to \$84,009.

The Trade, Transportation, and Utilities industrial category employed the largest portions of the state's workforce in 2000 at 18.5 percent. Government employed an additional 17.8 percent of the workforce, and professional and business services employed 16.2 percent.

EMPLOYMENT

The Arlington, Fairfax, Loudoun, and Prince William county area of northern Virginia contained nearly 25.6 percent of the state's workforce in 2000. One measure of an area's social and economic well-being is unemployment. This statistic measures the number of people that were available for work and yet were unable to find suitable work. In 2000, the unemployment rate for Virginia (2.7 percent) was below that of the country as a whole (3.7

³ Source for all data: the Virginia Employment Commission website: <http://velma.virtuallmi.com/>

percent). In addition, the unemployment rates for each of the political units that make up the local region ranged from 1.6 percent to 2.8 percent. For the affected area, the employment situation was better than it was for the country or state as a whole.

PER CAPITA INCOME

Personal income is a commonly used measure of the purchasing power available to the residents of a particular geopolitical unit. Prince William County together with Manassas and Manassas Park (average per capita income of \$29,967 in 2000) were somewhat behind the state average of \$31,120 and is slightly higher than the country as a whole (average per capita income of \$29,469). Bureau of Economic Analysis data show that for 2000—except for Prince William County, Manassas, and Manassas Park—the local area had per capita incomes ranging from \$40,290 to \$51,227, which is substantially better off than the rest of

the state and the nation in terms of per capita personal income.

POVERTY

The poverty rate is another measure of the economic and social well-being of an area. The percent of persons living below the poverty level within the affected area range from a low of 2.8 percent to a high of 7.8 percent. For each of the various parts of the affected area, the percentage of persons living below the official poverty level in 2000 was substantially lower than the state (9.6 percent) and national averages (12.4 percent).

Growing population, growth in industry earnings, relative high per capita incomes, and relative low unemployment and low poverty rates all indicate that the affected area has a vigorous and robust economy supporting a stable social environment.

RECREATION

Picnicking and hiking are available at the 400-acre Conway Robinson Memorial State Forest, which is 1/4 mile west of the park. In addition, there are numerous other parks and recreation facilities within the local area, which provide a wide variety of public recreational opportunities. The battles, location, historic resources, and historic significance of Manassas National Battlefield Park are what make it unique among the other parks and recreational areas of the affected region. The Henry Hill walking tour is the primary way

that visitors experience the First Battle of Manassas, while the park's driving tour is the primary way for people to experience the Second Battle. The park also features walking, hiking, and horseback riding facilities.

Bull Run Regional Park, operated by the Northern Virginia Regional Park Authority, is approximately four miles east of the Henry Hill Visitor Center. This facility features a broad range of recreational activities, and accommodates large groups' special events.

VISITOR EXPERIENCE

Resources available for visitor use include one visitor center, one visitor contact station, a picnic area, 5,071 acres of battlefield park, 12 miles of tour road, 150 interpretive park signs, 21 miles of hiking trails, and 23 miles of bridle trails.

VISITATION USE AND PATTERNS

The visitor use and patterns of use described in the following sections provides background for understanding levels of use and impacts of this use on the park's resources. Visitor use data has been collected for many years. Recreational visits for 2003 depicted in Table 3-2 are indicative of the normal park visitation patterns at Manassas National Battlefield Park. The park is open all year.

Visitation at most parks is usually seasonal with the lowest level of use in the winter and the highest in the summer. Spring and autumn are usually seasons of transition, with use going up in the spring and down in the fall. This typical pattern of use results in a "head and shoulders" diagram when plotted on a graph.

Table 3-2 Visitor Use for 2003 ³	
Month	Recreation Visits
January	20,033
February	24,609
March	82,093
April	146,231
May	93,407
June	50,962
July	54,314
August	118,450
September	64,394
October	36,462
November	36,457
December	32,541
Total	759,953

Source: National Park Service, Public Use Statistics Program Center, PSPC-WASO (www2.nature.nps.gov/stats/)

³ Non-recreation visits were reported as a constant 40 per month for an annual total of 480 non-recreational visits. These numbers, respectively, would be added to the monthly and yearly figures to obtain total visits for a particular month or the year.

Annual visitor use figures are presented in table 3-3. As this data shows, visitation patterns throughout the year at Manassas National Battlefield Park differ greatly from the typical pattern described above. Summer visitation is considerably higher than winter visitation. However, pleasant weather, combined with spring blossoms or autumn foliage, tends to create peak visitation during spring and fall weekends.

Annual visitor use at the park fluctuates from year to year. However, average visitation has increased 4.7 percent annually since 1983. As a general trend, visitation to the park is expected to continue to increase, although occasional annual declines in use may be expected.

VISITOR PROFILE

Three general categories of visitors at the Manassas National Battlefield Park are classified as follows:

- **General Visitors**—These people usually have limited specific interests in, or knowledge of, the battles and they visit the park to gain a general understanding of the park's significance. These visitors usually spend less than two hours in the park, mostly at the visitor center and the Henry Hill area.
- **Historical Visitors**—These individuals have a good understanding of the overall significance of the battles, and they are looking to examine and understand the actions and details of the two battles. They will spend about five hours in the park touring the battle sites.
- **Recreational Visitors**—This group is comprised of persons seeking recreational experiences such as cross-country skiing, fishing, hiking, horseback riding, jogging, kite flying, nature study, picnicking, and sledding. They usually come to the park on spring, summer, and fall weekends and holidays.

As described above, the heaviest use of the park occurs during fall and spring weekends. At these times, local use increases dramatically. Seasonal variations are as follows:

- Spring—Heaviest use occurs on weekends and is usually concentrated around Stone Bridge and the visitor center and the surrounding area. Increased use by seniors and school groups occurs, as well as more use by hikers, joggers, and picnickers.
- Summer—Family groups on extended vacations dominate the park. Peak daily use occurs between the hours of 11:00 a.m. and 4:00 p.m. Again heaviest use is on the weekends.
- Fall—Senior citizen and organized tour use increases, especially in October. Use is concentrated on weekends. Area residents make increased use of the park for recreational activities.
- Winter—Visitation is the lightest of any season. Area residents and business commuters predominate during this period. Heaviest use occurs during periods of snowfall when cross-country skiing, sledding, and snow play are the main attractions.

PROJECTION OF FUTURE USE

A variety of factors affects park use. Forecasting visitor use is subject to a high probability of error because the method generally used is simplistic, relatively few data points are available to establish the trend, and there is no cause and effect relationship between past use, future use, and extraneous variables beyond the control of the National Park Service. In addition, the high levels of non-park vehicular traffic on U.S. Route 29 and VA Route 234 all but prohibit accurate counts of park-related traffic. Based on historical data, it is assumed that visitation would probably increase over the long term. This pattern also reflects the general trend for most national park system units.

Table 3-3: Annual Visitor Use, 1983 to 2003

Year	Recreation Visits ⁴	Non-Recreation Visits ⁵	Total Visits
2003	759,953	480	760,433
2002	779,147	480	779,627
2001	822,684	480	823,164
2000	692,006	480	692,486
1999	815,338	480	815,818
1998	972,709	480	973,189
1997	1,025,826	480	1,026,306
1996	725,086	480	725,566
1995	676,087	480	676,567
1994	917,534	480	918,014
1993	614,897	480	615,377
1992	867,606	480	868,086
1991	905,485	480	905,965
1990	799,972	480	800,452
1989	767,138	480	767,619
1988	778,861	420	779,281
1987	667,014	No data collected	667,014
1986	793,274	No data collected	793,274
1985	723,998	No data collected	723,998
1984	703,100	No data collected	703,100
1983	720,754	No data collected	720,754

Source: National Park Service, Public Use Statistics Program Center, PSPC-WASO (www2.nature.nps.gov/stats/)

⁴ Recreation Visits are the entries of persons, for any part of a day, onto lands or waters administered by the National Park Service for recreation purposes.

⁵ Non-recreation Visits are entries of persons going to and from in-holdings, trades people with business in the park, non-NPS personnel pursuing a gainful business (e.g., guides), and other non-NPS entries for purposes other than recreational pursuits.

PARK OPERATIONS AND MAINTENANCE

Manassas National Battlefield Park had a base operating budget of approximately \$2,526,500 in Fiscal Year 2004 and a permanent work force of 29 permanent positions and 9 seasonal positions. This work force was supplemented in 2004 by approximately 11,900 hours of Volunteers-in-Parks service. The park's base budget in FY 2004 was supplemented by approximately \$6,000 of donated funds and \$163,300 fee enhancement funds from entrance fees.

Management staff includes the superintendent, cultural and natural resources managers. Staff is organized into four operating divisions: Interpretation, Visitor Protection, Maintenance, and Administration. Staff expertise and specialties include one museum curator, one historian, one Natural Resource Program Manager/GIS Specialist, one computer specialist, and two exhibit specialists. This recurring staff will be supplemented and/or supported using special project funds, contracts, and/or the assistance or expertise of various NPS and other organizations as available.

Park administration structures include

- one visitor center
- one visitor contact station
- one central maintenance facility
- park headquarters
- one Law Enforcement office building
- one horse barn
- one hay barn/fire cache building
- one tack building
- one resource management building
- three employee housing units

In addition, the park includes 4.65 miles of paved and 7.6 miles of unpaved roadways and two picnic areas. The information on the park operations was obtained from the Annual Performance Plan for the Manassas National Battlefield Park, which may be obtained at <http://www.nps.gov/mana/administration/GPRA%202003/gpra2003.htm>.

Environmental Consequences



INTRODUCTION

The National Environmental Policy Act mandates that environmental impact statements disclose the potential environmental consequences of a proposed federal action. In this case, the proposed federal action would be the adoption of one of the alternatives described in this *General Management Plan/Environmental Impact Statement* for the Manassas National Battlefield Park. This chapter describes the potential impacts associated with three alternatives. By assessing the environmental consequences of all the alternatives on an equivalent basis, the National Park Service and other decision makers can decide which alternative creates the most desirable combination of beneficial results with the fewest adverse effects on the environment.

The environmental consequences associated with the proposed actions are analyzed on a qualitative level because of the general nature of the alternatives and proposed actions. Thus, this Environmental Impact Statement should be considered a programmatic analysis. Typically, future implementation proposals would be tiered (procedurally connected) to this broad scale *General Management Plan/Environmental Impact Statement*, and additional planning and environmental analysis would be conducted in accordance with the National Environmental Policy Act, NPS Director's Order 12, *NPS Management Policies 2001*, and other regulations. For this plan, this situation is especially true for the transportation improvements (controlled access measures) and cultural landscape rehabilitation (forest removal and revegetation) described under alternatives B and C. As a result, the analysis in this document is designed to provide the park superintendent with general management direction.

METHODOLOGY FOR ASSESSING IMPACTS

Potential impacts are described in terms of type (beneficial or adverse), context (site-specific, local, or even regional), direct versus

indirect, duration (short-term or long-term), and intensity (negligible, minor, moderate, or major). Provided below is a clarification of each of these concepts.

Impact Type

For each impact topic, the effects of the proposed action could be either adverse or beneficial. In some cases, the actions could result in both adverse and beneficial impacts for the same impact topic.

Intensity

This evaluation used the approach for defining intensity (or magnitude) for an impact as presented in Director's Order 12. Each impact was determined to be negligible, minor, moderate, or major. For each impact topic, the criteria defining the thresholds for each intensity level were determined. Most of the intensities are expressed qualitatively because this *General Management Plan/Environmental Impact Statement* is a programmatic document.

Context

The context of each impact is described in terms of site-specific, local, or regional. For instance, the construction of the new visitor center may have site-specific adverse impacts to terrestrial resources while the reduction in commuter traffic in the park would have localized benefits to the visitor experience.

Duration

The planning horizon for this *General Management Plan/Environmental Impact Statement* is approximately 20 years. In general, impacts that occur within one year or less were classified as short-term. Long-term effects would last for more than one year. Duration definitions are provided for each impact topic.

Direct Versus Indirect Impacts

Direct impacts are those caused by an action at the same time and place as the action. Indirect

impacts are reasonably foreseeable but occur later in time, at another place, or to another resource. An example of different impacts is how the removal of vegetation (direct impact) would in turn cause soil erosion and sedimentation, thus affecting the water quality (indirect impact) of a nearby waterway.

Impairment to Park Resources and Values

The National Park Service's *Management Policies 2001* require analysis of potential effects to determine whether actions would impair park resources. National Park Service managers must always seek ways to avoid or minimize to the greatest degree practicable, adversely impacting park resources and values. The laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not impair the affected resources and values.

Although Congress has given the National Park Service the management discretion to allow certain impacts, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. Any impact to any park resource or value could constitute an impairment. However, an impact would be more likely to constitute an impairment if it has a major or severe adverse effect upon a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- key to the natural or cultural integrity of the park
- identified as a goal in the park's general management plan or other relevant National Park Service planning documents

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. A determination on

impairment is made for most impact topics in this section.

Cumulative Impacts

The Council on Environmental Quality regulations, which implement the National Environmental Policy Act, requires assessment of cumulative impacts in the decision making process for federal projects. Cumulative impacts are defined as "the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives and are presented at the end of each impact topic discussion analysis.

Cumulative impacts are evaluated in a regional context, which varies for each impact topic. Cumulative effects were determined by combining the impacts of the proposed action with other past, present, and reasonable foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Therefore, it was necessary to identify other ongoing or foreseeable future projects at Manassas National Battlefield Park and, as necessary, the surrounding region.

CUMULATIVE IMPACT SCENARIO

As part of the analysis and consideration of potential cumulative impacts, other past, present, and reasonably foreseeable projects were identified. For each project, the National Park Service considered the potential cumulative effect when combined with the potential impacts of actions and management decisions proposed in the general management plan. A brief overview of other ongoing or past studies and pending projects identified in the immediate area follows. Projects that have the potential for cumulative effects are discussed further in the impact analysis.

Projects with Potential Cumulative Impacts

Manassas National Battlefield Park Bypass Environmental Impact Statement (Bypass Study)

U.S. Route 29 and VA Route 234 directly transect the Manassas National Battlefield Park. The volume of commuter traffic that uses these facilities has resulted in traffic safety and congestion problems, negative impacts to visitor experience, and problems for basic park operations. In response to the conflicting uses of roads within the park, Congress passed the Manassas National Battlefield Park Amendments of 1988, requiring the study of alternatives to the current situation.

That legislation served as the impetus for the Bypass Study described in the “Purpose and Need” section. The Bypass Study analyzes the impacts of relocating both U.S. Route 29 and VA Route 234 from their current locations within the park, and includes analysis of all elements necessary leading to the preparation of an Environmental Impact Statement, including traffic modeling and evaluations, cultural resource evaluations, socioeconomic evaluations, natural resource evaluations, and alternatives development. Further information can be found on this project at <http://www.battlefieldbypass.com>.

I-66 Multimodal Transportation and Environmental Study (I-66 Study)

Interstate 66 runs east west through northern Virginia and is immediately south of Manassas National Battlefield Park. The Virginia Department of Transportation and the Department of Rail and Public Transportation have initiated the I-66 Study for improving mobility along the I-66 corridor from just west of the I-66/I-495 (Capital Beltway) interchange in Fairfax County to the I-66/U.S. Route 15 interchange near Haymarket in Prince William County. An earlier Major Investment Study selected multimodal transportation improvements in the I-66 corridor as ways to enhance safety while providing increased capacity for current and projected future travel demands.

The current I-66 Study will examine configurations and locations of improvements to the I-66 travel lanes; Metrorail; commuter and local bus service, transit stations and parking; and other facilities. The Federal Highway Administration and the Federal Transit Administration, acting as joint lead federal agencies, are working with the Virginia Department of Transportation and the Virginia Department of Rail and Public Transportation to prepare an Environmental Impact Statement as required by and in accordance with the National Environmental Policy Act. Further information on this project can be found at <http://www.infoi66.com>.

Tri-County Parkway Location Study & Environmental Impact Statement (Tri-County Parkway Study)

The Virginia Department of Transportation has completed a Draft Environmental Impact Statement and Location Study for a new roadway, referred to as the Tri-County Parkway. The Virginia Department of Transportation started this study in 2002 to evaluate a new north/south transportation link in Northern Virginia to connect the City of Manassas with I-66 and the Loudoun County Parkway in the Dulles area.

The Draft Environmental Impact Statement moves forward alternatives adjacent to and on the east and the west sides of the park. Park staff and the staff at the Virginia Department of Transportation have worked closely together on this study and the park bypass study. Thus, whether the Virginia Department of Transportation selects the route to the east or to the west, its facility and the park bypass route likely would be co-located in the same roadway, rather than in redundant roadways.

The Virginia Department of Transportation and Federal Highway Administration initiated this study at the request of Fairfax, Loudoun, and Prince William Counties. Further information on this project can be found at <http://www.virginiadot.org/projects/const-project.asp?ID=236>.

Virginia Route 234 Bypass North

During the 1990s, the Virginia Department of Transportation conducted a study to plan the alignment and construction of a bypass for VA Route 234 around the city of Manassas. The proposed route would run west of the park, rejoining VA Route 234 north of the park at Catharpin. During preparation of the EIS for this project, budgetary and other concerns forced VDOT to cease work on the northern portion of the route, and to construct only the portion south of I-66. The resumption of the northern portion of the VA Route 234 bypass is a matter of continued discussion and planning.

Stuart's Hill Tract Rehabilitation and Picnic Area Construction

The Stuart's Hill Tract rehabilitation and picnic area construction project was a

collaborative effort between the National Park Service and the Smithsonian Institution. The Stuart's Hill Tract was acquired in 1988 by the National Park Service. Part of that tract included an area where a private developer had begun alterations for a mixed-use community that drastically altered the landscape. Alterations included the establishment of an entrance road, re-contouring of the area, and establishment of a drainage network.

The Stuart's Hill Tract rehabilitation project entailed returning previously disturbed areas to their historic grades, creating wetlands, replanting native vegetation, and developing a new picnic facility and area. The wetland creation part of the project served as compensatory wetland mitigation for the Smithsonian Institution, for wetland impacts associated with the National Air and Space Museum's Udvar-Hazy Center project.

IMPACTS ON THE NATURAL ENVIRONMENT

AIR QUALITY

Methodology

In the impact assessment for air quality the National Park Service study team focused on changes to the levels of air emission from the proposed actions under each alternative. The National Park Service also considered the physical impacts associated with any new developmental plans and anticipated visitor uses. The context of the evaluation was the Park and immediate surrounding area. For this programmatic study, the impacts discussed are qualitative. The potential impacts on the National Ambient Air Quality Standards and other impacts outside the park associated with the closure of U.S. Route 29 and VA Route 234 to commuter and commercial traffic are included in the Bypass Study described above. For the purposes of this document, it is estimated that more than 95 percent of the park's traffic volume is attributable to "through" trips—those that do not include a stop in the park itself.

Definition of Intensity Levels

Analyses of the potential intensity levels of impacts resulting from each alternative on air quality were derived from the information available from Prince William County and regional agencies in northern Virginia. Definitions for the thresholds of change for the intensity of impacts on air quality are as follows:

- *Negligible:* The impact is localized and not measurable or at the lowest level of detection.
- *Minor:* The impact is localized and slight but detectable. The impact would have no effect on the County's ability to comply with National Ambient Air Quality Standards.
- *Moderate:* The impact is readily apparent and appreciable. The impact could have an effect in the area on the County's ability to comply with National Ambient Air Quality Standards.
- *Major:* The impact is severely adverse and highly noticeable. The impact would have an effect on

the County's ability to comply with National Ambient Air Quality Standards.

- *Duration:* A short-term impact would last less than one year and would affect only one season's use by visitors or the length of construction activities. A long-term impact would last more than one year and would be more permanent in nature.

Alternative A—Continuing Current Management Practices (No-Action)

Under the no-action alternative, there would be no change in the region's levels of emission from vehicular traffic at the Manassas National Battlefield Park or surrounding area. The no-action alternative would not change the County's ability to comply with the National Ambient Air Quality Standards. Local impacts on air quality presently exist from emissions generated during rush hours from traffic congestion at the intersection of U.S. Route 29 and VA Route 234. Over time, the local emission levels would expect to increase; however, levels would increase only slightly because the intersection is at or near its operational capacity. These existing conditions have a localized, adverse impact on air quality in the park. The impact is long-term and negligible.

Cumulative Impacts. A number of past, present, and pending road and other construction projects in close vicinity have the potential to have short-term, adverse impacts on air quality from fugitive dust and emissions during construction. In the long term, the air quality impacts are dependent on the final route selection and designs for each project. However, for the purposes of evaluating the cumulative impact scenario, it is assumed that there would be a negligible impact on air quality in the vicinity of the Manassas National Battlefield Park because traffic is only being rerouted from U.S. Route 29, VA Route 234, and other roads, and there would be lower emissions generated from delays at intersections.

The incremental impact associated with implementation of alternative A would be expected to be small. The increased emissions levels under alternative A, when combined with other past, present, and reasonably foreseeable future projects such as pending road construction projects, would be expected to have a moderate short-term adverse cumulative impact on air quality in the vicinity of the Manassas National Battlefield Park.

Conclusion. Negligible, long-term, adverse impacts on air quality would continue along the VA Route 234 and U.S. Route 29 corridors. Adverse cumulative impacts would be moderate; however, the incremental contribution of Alternate A would be small. Because there would be no major adverse impact to resources or values, there would be no impairment of the Park's resources or values.

Alternative B—The Two Battles Of Manassas (Preferred Alternative)

The upgrade of the Second Manassas Visitor Contact Station at Stuart's Hill and other small construction-related activities associated with improving visitor services under alternative B would have a localized adverse impact on air quality as a result of fugitive dust, particulates, and emissions produced by construction equipment. Some fugitive dust, particulates, and emissions produced by construction equipment would still be in the air to some degree despite the mitigation measures of using low polluting fuel and having pollution control devices installed on the construction equipment. The adverse impact would be short-term and negligible because the projects are small in nature and best management practices (such as watering, seeding for erosion control, etc.) would be implemented to reduce construction-related impacts.

Closure of roads through the park to heavy commuter traffic would improve local air quality along those road corridors within the park. Rerouted traffic would contribute to emissions along roads outside of the park. Emissions outside of park boundaries are considered as part of the Bypass Study.

The redistribution of vehicular traffic would not be expected to have an adverse impact on the County's ability to comply with National Ambient Air Quality Standards; therefore, the adverse impacts to air quality in the region would be expected to be minor and long-term. The magnitude of impacts on air quality outside the park resulting from redistributing the commuter and commercial traffic outside the park is being evaluated as part of the Bypass Study, but this impact on air quality is anticipated to be minor, long-term, and adverse.

There would be a localized and short-term decrease in air quality as a result of fugitive dust, particulates, and emissions produced by construction equipment. This impact would be minor because the amount of disturbed area at any given time would be relatively small. Forest removal operations are expected to be conducted in phases, which would limit the amount and extent of construction activity occurring at any one time.

Cumulative Impacts. The construction-related activities and forest removal operations under alternative B, when combined with other past, present, and reasonably foreseeable future projects such as Manassas National Battlefield Park Bypass, I-66 Improvements, and Tri-County Parkway, would have an adverse cumulative impact on air quality. Traffic congestion and fugitive dust during construction would add to the localized and short-term impact on air quality. The incremental impact associated with implementation of any of the proposed activities under alternative B would be expected to be small and would not have a noticeable contribution to the cumulative impact.

The magnitude of the impact on air quality resulting from the other road improvement projects and redistribution of commuter and commercial traffic outside the park is being evaluated in more detail as part of the Bypass Study and the Tri-County Parkway Study. The cumulative impact is dependent on the final route selection which, at the time this report was written has not been finalized. However,

the impact is likely to be minor, long-term and adverse; therefore, the overall cumulative impact would likely be minor.

Conclusion. Negligible short-term adverse impacts to air quality in the park would occur periodically during construction activities. In the long term, there would be a localized reduction in traffic-related air pollutants along the portions of U.S. Route 29 and VA Route 234 within the park. The magnitude of impacts on air quality resulting from redistributing the commuter and commercial traffic outside the park is being evaluated as part of the ongoing Bypass Study. However, this impact is anticipated to be adverse and minor. Cumulative impact on air quality would be adverse and minor.

Additional mitigation measures could further minimize the construction-related short-term impacts to air quality. Such measures could include (but are not limited to) dust control, pollution control devices on construction equipment, and the use of low polluting fuels.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

Alternative C—The Defining Moments of the Battles of Manassas

Relocating the visitor center off of Henry Hill to a new location to the east of Stone Bridge would have similar construction-related impacts to that of alternative B except the footprint and magnitude of construction would be larger. Fugitive dust, particulates, and emissions produced by construction equipment would have short-term minor adverse impacts on air quality. In the long term, the new visitor center and other

improvements proposed under alternative C would have no to negligible adverse impacts on air quality because the projects are small in nature and best management practices (such as watering, seeding for erosion control, etc.) would be implemented to reduce construction-related impacts.

Closure of roads through the park to heavy commuter traffic would improve local air quality along those road corridors within the park. Rerouted traffic would contribute to emissions along roads outside of the park, which is being considered as part of the Bypass Study. The redistribution of vehicular traffic would not be expected to have an adverse impact on the County's ability to comply with National Ambient Air Quality Standards; therefore, the adverse impacts to air quality in the region would be expected to be minor and long-term.

The type of impacts would be similar to those described under alternative B, although the extent of construction and forest removal operations would be smaller. There would be a localized short-term decrease in air quality as a result of dust, particulates, and emissions produced by construction equipment. This impact would be negligible because the disturbed area would be relatively small. Forest removal operations are expected to be done in phases, which would limit the amount and extent of construction activities occurring at any one time.

Cumulative Impacts. The cumulative impacts would be the same as described for alternative B. The construction-related activities and forest removal operations under alternative C, when combined with other past, present, and reasonably foreseeable future projects such as Manassas National Battlefield Park Bypass, I-66 Improvements, and Tri-County Parkway, would have an adverse cumulative impact on air quality. Traffic congestion and fugitive dust during construction would add to the localized and short-term impacts on air quality. The incremental impact associated with implementation of any of the proposed activities under alternative C would be expected to be small and would not have a

noticeable contribution to the cumulative impact.

The magnitude of impacts on air quality resulting from the other road improvement projects and redistributing the commuter and commercial traffic outside the park is being evaluated in more detail as part of the Bypass Study and the Tri-County Parkway Study. The cumulative impact is dependent on the final route selection which, at the time this report was written has not been finalized. However, the impact is likely to be minor, long-term and adverse; therefore, the overall cumulative impact would likely be minor.

Conclusion. Impacts to local air quality during construction activity, would range from negligible to minor, and would be short-term and adverse. Closure of U.S. Route 29 and VA Route 234 to commuter and commercial traffic would result in a localized reduction in vehicle-related air pollutants along the portions of these routes that fall within park boundaries. The result would be a long-term, beneficial impact to air quality within the park. The potential effects of rerouting traffic from the road closures are discussed in more detail in the Bypass Study.

Additional mitigation measures could further minimize the construction-related short-term impacts to air quality. Such measures could include (but are not limited to) dust control, pollution control devices on construction equipment, and the use of low polluting fuels.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

SOUNDSCAPE

Methodology

The National Park Service *Management Policies 2001* states that the National Park Service will strive to preserve the natural quiet and natural sounds associated with the physical and biological resources of parks. Section 4.9 of NPS *Management Policies 2001* requires the rehabilitation of degraded soundscapes to the natural condition whenever possible, and the protection of natural soundscapes from degradation due to noise (undesirable human-caused sound). The National Park Service is specifically directed to "take action to prevent or minimize all noise that, through frequency, magnitude, or duration, adversely affects the natural soundscape or other park resources or values, or that exceeds levels that have been identified as being acceptable to, or appropriate for, visitor uses at the sites being monitored" (*Management Policies 2001*, sec. 4.9).

Noise can adversely affect park resources by modifying or intruding upon the natural soundscape, and can also indirectly impact resources by interfering with sounds important for animal communication, navigation, mating, nurturing, predation, and foraging functions. Noise can also adversely impact park visitor experiences by intruding upon or disrupting experiences of solitude, serenity, tranquility, contemplation, or a completely natural or historical environment. The methodology used to assess noise impacts in this document is consistent with NPS *Management Policies 2001* and Director's Order 47, "Soundscape Preservation and Noise Management."

Definition of Intensity Levels

Analyses of the potential intensity levels of impacts on soundscape management were derived from the available literature on the Manassas National Battlefield Park. The thresholds of change for the intensity of impacts on soundscape are defined as follows:

- *Negligible:* Effects on the natural sound environment would be at or below the level of

detection and such changes would be so slight that they would not be of any measurable or perceptible consequence to the visitor experience or to biological resources.

- *Minor*: Effects on the natural sound environment would be detectable, although the effects would be localized, and would be small and of little consequence to the visitor experience or to biological resources.
- *Moderate*: Effects on the natural sound environment would be readily detectable and localized, with consequences to the visitor experience or to biological resources at the regional level.
- *Major*: Effects on the natural sound environment would be obvious and would have substantial consequences to the visitor experience or to biological resources in the region.
- *Duration*: A short-term impact would last less than one year and would affect only one season's use by visitors or the length of construction activities. A long-term impact would last more than one year and would be more permanent in nature.

Alternative A—Continuing Current Management Practices (No-Action)

Under the no-action alternative, U.S. Route 29 and VA 234 would remain open to commuter and commercial traffic throughout the park. The battlefield and historic resources along U.S. Route 29 and VA Route 234 would continue to be adversely affected from noise generated from vehicular traffic. When noise levels were compared to land-use compatibility guidelines, the noise levels were found to be above the generally accepted threshold for cultural activities and city parks. The desired soundscape of a battlefield setting is a tranquil, peaceful, and still setting. This setting is desired to allow the visitor to imagine the series of historical events that took place on the battlefield. The noise from vehicular traffic compromises this setting and the visitor experience. Over the next 20 years, this condition and noise level may worsen as traffic levels on I-66, U.S. Route 29, and VA Route 234 increase. Therefore, the no-action alternative would have a moderate long-term adverse impact on the park's soundscape.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects, such as the proposed road projects described in the cumulative impact scenario, would have short-term, adverse impacts on the soundscape from construction activities and long-term, adverse impacts from noise generated by vehicles on the new roads. When these noise impacts are combined with the noise impacts from vehicular traffic at the park, the cumulative adverse impact would be long-term, moderate, and adverse. If the roads were not closed to local commuter traffic, as is the case under alternative A, the Manassas National Battlefield Bypass and other regional road project would be expected to displace some of the traffic on U.S. Route 29 and VA Route 234 to other roads. This displacement would lessen traffic in some areas, but would not reduce traffic levels on the park roads to the extent that noise would be reduced to acceptable levels. Therefore, the noise generated from traffic would be expected to continue if the National Park Service did not restrict use of the roads. The overall cumulative impact to noise would be expected to be moderate, with the no-action alternative incremental contribution being moderate. However, the degree of the impact is dependent on the outcome of each road project.

Conclusion. Noise generated from traffic on U.S. Route 29 and VA Route 234 during peak travel periods would continue to have a moderate, long-term, adverse impact on the park's soundscape. A moderate long-term adverse cumulative impact would occur. Because there would be no major adverse impact to resources or values, there would be no impairment of the park's resources or values.

Alternative B—The Two Battles of Manassas (Preferred Alternative)

The upgrade of the Second Manassas visitor contact station at Stuart's Hill and other small construction-related activities associated with improving visitor services under alternative B would have a localized, adverse impact on the soundscape caused by noise generated by construction equipment and activities. The

adverse impact would be short-term and negligible. Long-term, adverse impacts on the soundscape from the new contact station and other small projects would be negligible because park visitation, visitor patterns, and use would not increase to a point that would have a noticeable effect on the soundscape.

Under alternative B, the National Park Service would control access would restrict commuter and commercial traffic on U.S. Route 29 and VA Route 234. The controlled access would greatly lower the traffic volumes on the roads. In addition, speed limits within the park would be reduced to 25 miles per hour. As a result, noise levels generated from vehicular and truck traffic would also be reduced.

The controlled access and reduced speeds would help achieve the desired soundscape of the park. The desired soundscape of a battlefield is a tranquil, still, and peaceful setting where visitors can imagine the series of historical events that took place on the battlefield. Thus, the road closures and reduced speeds would have a moderate long-term beneficial impact on the soundscape of the park. Controlled access and the diversion of vehicles around the park would have an adverse impact on noise (likely to be moderate); however, the intensity of the impact is dependent on the route selected. Noise associated impacts outside the park are being considered as part of the environmental review for the Bypass Study.

There would be an adverse localized and short-term impact on the soundscape caused by noise generated during forest removal operations. This impact would be minor because the length of construction and noise generated would be relatively small. Forest removal operations would be performed in phases, which would limit the amount and extent of construction activity occurring at any one time.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects such as the road projects described in the cumulative impact scenario would have short-term adverse impacts on the soundscape from

construction activities. When these impacts are combined with the construction related impacts of alternative B, the cumulative adverse impact would be short term and minor. In the long term, the impact of alternative B on soundscape would be relatively beneficial because of the reduction in noise resulting from the decrease in vehicular traffic in the park. No long-term cumulative impacts on the soundscape would occur because alternative B would have no long-term adverse impacts on the soundscape and because no long-term impacts were identified in the cumulative impact scenario.

Conclusion. Controlled access and reduced speed limits within the park would have a moderate, long term, beneficial impact on the soundscape. Minor short-term adverse impacts on the soundscape would occur during construction activities to upgrade visitor services areas and during forest removal operations. Minor short-term cumulative impacts on the soundscape would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

Alternative C—The Defining Moments of the Battles of Manassas

Relocating the visitor center off of Henry Hill to a new location to the east of Stone Bridge would help rehabilitate the soundscape of the battlefield resource at Henry Hill and would introduce a new noise source at another location in the park. Additional study for the relocation of the visitor center would take into consideration the potential noise impacts to other nearby resources. Construction activities associated with building a new visitor center would have minor, short-term, adverse

impacts on the soundscape. In the long term, the new visitor center and other improvements proposed under alternative C would improve the soundscape on the battlefield by removing the visitor center from the battlefield. By relocating visitor-related sounds to an area of the park removed from the major sites of battle, the activities under alternative C would be more compatible and desirable based on the park's purpose to preserve the story of the two Battles of Manassas. Therefore, a minor long-term beneficial impact would occur on the park's soundscape.

Under alternative C, the National Park Service would control access on U.S. Route 29 and VA Route 234 and restrict commuter and commercial traffic. The controlled access would greatly lower the traffic volumes on the roads within the park. In addition, speed limits within the park would be reduced. As a result, noise levels generated from vehicular and truck traffic would also be reduced. The controlled access and reduced speeds would help achieve the desired soundscape of the park. The desired soundscape of a battlefield setting is a tranquil, still, and peaceful setting where visitors can imagine the series of historical events that took place on the battlefield. Thus, the road closures and reduced speeds would have a moderate long-term beneficial impact on the soundscape.

Impacts would be similar to those described under alternative B, although the extent of construction and forest removal operations would be smaller. There would be a localized short-term impacts on the soundscape caused during the forest removal. This impact would be negligible because the length of construction and noise generated would be relatively small. Forest removal operations would be performed in phases, limiting the amount and extent of construction activities occurring at any one time.

Cumulative Impacts. The cumulative impact would be the same as described for alternative B. Other past, present, and reasonably foreseeable future projects such as the road projects described in the cumulative impact scenario would have short-term adverse

impacts on the soundscape from construction activities. When these impacts are combined with the construction related impacts of alternative C, the cumulative adverse impact would be short-term and minor. In the long term, the impact of alternative C on soundscape would be beneficial due to the reduced noise resulting from decreased vehicular traffic in the park. No long-term impacts to the soundscape were identified in the cumulative impact scenario; therefore, no long-term cumulative impacts on the soundscape would occur.

Conclusion. Controlled access and reduced speed limits within the park would have a moderate, long-term, beneficial impact on the soundscape. Minor short-term adverse impacts on the soundscape would occur during construction activities to upgrade the visitor services areas and forest removal operations. Minor short-term cumulative impacts on noise would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

VEGETATION AND WILDLIFE

Methodology

In the impact assessment for vegetation and wildlife, the National Park Service focused on changes to the levels of populations of species and the effects on habitat and natural communities. The National Park Service also considered the physical impacts associated with any new developmental plans and anticipated visitor uses. The context of the evaluation was the park and surrounding area. For this programmatic study, the impacts discussed are qualitative and, in most cases,

additional planning and environmental analysis would be conducted to determine site-specific impacts on vegetation and wildlife.

Definition of Intensity Levels

Analyses of the potential intensity of impacts to vegetation and wildlife were derived from the available literature on the Manassas National Battlefield Park and professional judgment of the park staff. The thresholds of change for the intensity of impacts on vegetation and wildlife are defined as follows:

- For vegetation:
 - *Negligible*: individual native plants may occasionally be affected, but no measurable or perceptible changes in plant community size, type, integrity, or continuity would occur.
 - *Minor*: impacts on native plants are measurable or perceptible and localized within a relatively small area. The overall viability of the plant community would not be affected and, if left alone, would recover.
 - *Moderate*: impacts on native plants would cause a change in the plant community (e.g., abundance, distribution, quantity, or quality); however, the impact would remain localized.
 - *Major*: impacts on native plant communities would be substantial and highly noticeable, and would affect a sizable portion of affected community type in or outside the park. Mitigation measures required to offset the adverse effects would be extensive and their success would not be guaranteed.

For wildlife:

- *Negligible*: wildlife and habitats would not be affected or the effects would be at or below the level of detection, and the changes would be so slight that there would not be any measurable or perceptible consequence to the wildlife species populations.
- *Minor*: impacts on wildlife and habitats would be detectable, although the effects would likely be localized, small, and of little consequence to the species' population. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
- *Moderate*: impacts on wildlife and habitats would be readily detectable and localized, with

consequences at the population level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

- *Major*: impacts on wildlife and habitats would be obvious and would have substantial consequences to wildlife populations in the region. Extensive mitigation measures may be needed to offset adverse affects.
- *Duration*: A short-term impact would last less than one year and would affect only one season's use by visitors or the length of construction activities. A long-term impact would last more than one year and would be more permanent in nature.

Alternative A—Continuing Current Management Practices (No-Action)

Under the no-action alternative, the National Park Service would continue with current management practices, including the present use of the facilities. Controlled access into the park would not be implemented. The visitor center and contact station would not change. The National Park Service would conduct small-scale, periodic clearing activities to maintain the battlefield landscape. Clearing would be achieved using a variety of potential methods, including mechanical methods as well as prescribed fire. These small-scale activities would have little effect on plant populations in the park because the areas affected would be small. The activities would not displace or alter habitat in a way that affects wildlife populations because the park would avoid such areas; therefore, negligible adverse impacts on vegetation and wildlife would occur.

Cumulative Impacts. The small clearing activities under alternative A, when combined with other past, present, and reasonably foreseeable future projects such as pending road construction projects, would have a moderate adverse cumulative impact on vegetation and wildlife. The pending road projects have the potential to have moderate impacts on vegetation and wildlife; however, the degree of the impact is dependent on the final route selection for each project. The incremental impact associated with

implementation of alternative A would be small. Overall, the cumulative impact would be moderate, long term, and adverse.

Conclusion. Negligible adverse impacts on vegetation and wildlife would occur. A moderate adverse cumulative impact could occur; however, the incremental impact associated with alternative A would be small. Because there would be no major adverse impact to resources or values, there would be no impairment of the park's resources or values.

Alternative B—The Two Battles of Manassas (Preferred Alternative)

The upgrade of the Second Manassas Visitor Contact Station, as well as potential improvement and expansion of the access road and parking area, would have minor short-term and long-term adverse impact on vegetation and wildlife. Upgrade of the access road and associated parking for the Second Manassas Visitor Contact Station could require some tree removal and some wildlife may be temporarily displaced by construction activities. Additional environmental evaluations and field studies would be required for implementation. The impact on vegetation and wildlife would be adverse and minor due to the potential removal of vegetation to upgrade the road and parking. The National Park Service would practice avoidance and minimization to the extent practicable during the planning and design and then develop appropriate mitigation to minimize impacts.

The closure of U.S. Route 29 and VA Route 234 to heavy commuter traffic would have a beneficial impact on the wildlife in the park. The reduction in vehicular and truck traffic through the park would reduce the noise and human activity that discourages wildlife use near the road. Travel speeds would also be reduced throughout the park. With the reduction of traffic and travel speeds, the number of animals killed by vehicles would likely be reduced. A minor long-term beneficial impact would occur on wildlife within the park.

Diversion of traffic and changes in traffic levels on other roads outside the park are being considered in the Bypass Study. At the time of this evaluation, the potential effects on wildlife of closing the roads outside the park are uncertain, because many unknown variables that need to be considered, such as location and design of the bypass, surrounding habitat, and wildlife migration patterns and populations. However, as a result of changes to traffic flows and levels, potential adverse impacts to wildlife would likely range from negligible to minor.

Rehabilitation of portions of the historic landscape would result in the phased removal of approximately 327 acres of second growth forest, which would be converted to open fields. Map 4-1 shows the extent of proposed forest removal. Most of this acreage consists of oak-hickory or Virginia pine forest with a small portion of loblolly white pine, and mixed forest. Approximately 82 acres of open fields would be allowed to regenerate through natural succession back to oak-hickory forest. In the long term, there would be a net loss of 245 acres of forest. The clearings will be maintained using a variety of potential methods, including mechanical methods as well as prescribed fire. These acreages are estimates and are presented for comparison of the alternatives only. The cleared forestland would be converted to early successional habitats such as grassland and/or scrubland.

Various studies support the finding that grasslands are declining at higher rates than forested lands. In Virginia, open, idle grasslands have been reduced by 55% since 1945 (Franzreb, K. E. and K. V. Rosenberg, 1997). The conversion to grassland would thereby help to offset the impacts of forest removal. While the impacts of this removal would be noticeable within the park itself, the regional value of the newly created grasslands would be such that the overall regional impacts to vegetation and wildlife would be minor.

Historic landscape modification would benefit some species of migratory birds and negatively affect others. The approximately 327 acres of forested habitat to be removed represents

some 15 percent of the forested habitat within the park. The *net* loss of 245 forested acres represents approximately 11 percent of the park's total forested acreage. This newly cleared land would be managed as open fields. This would create additional habitat for species that prefer open fields or edge habitat between forests and fields, including the prairie warbler, field sparrow, mice, voles, hawks, and other species.

The 82 acres of open field allowed to return to woodlands would expand the park's existing woodlands and provide habitat for woodland species such as squirrels, woodpeckers, and raccoons. Species that use edge habitat between forests and fields would also benefit. In the short-term, this regenerating habitat would favor early successional species. As tree regeneration begins to dominate the sites, birds such as the yellow-breasted chat, common yellowthroat, indigo bunting, and prairie warbler would likely occupy the sites. With canopy closure and development of more mature stands, canopy nesters such as eastern wood-pewees would likely occur. The relatively small size of the regeneration areas would minimally expand the existing woodlands, which may not appreciably enhance breeding habitat for area sensitive forest interior birds.

The net loss of forests would nonetheless impact interior forest area-sensitive species, whose populations would likely decrease or be displaced through direct loss of forest habitat, increase in edge habitat, and increase in edge effects. There could be increased competition with edge species for food, nest sites, and space. An increase in the proportion of edge to forest interior is likely to lead to higher nest parasitism and nest predation. Nests along forest edges and in small forest tracts experience higher rates of loss from foxes, raccoons, cats, dogs, blue jays, and other predators.

Although these acreages are representative of the magnitude of change expected, some further refinement of the actual boundaries of the historic scene rehabilitation areas would likely occur based on more precise field

surveys. The National Park Service would conduct additional environmental analysis and documentation prior to proceeding with implementation in each resource area. Bottomland forests and riparian vegetation within the perimeters of designated cut areas would be maintained, which would minimize the impacts on bird and other species that use this habitat.

Cumulative Impacts. When combined with other past, present, and reasonably foreseeable future projects, the construction-related activities under alternative B would have a short-term adverse cumulative impact on vegetation and wildlife. The incremental impacts associated with alternative B would be small. The Manassas National Battlefield Park Bypass, Tri-County Parkway, and other nearby road projects have the potential to have adverse impacts on forested areas and associated wildlife because of clearing and construction activities to build the new roads. Collectively the cumulative impact would be anticipated to be moderate, long-term, and adverse.

Conclusion. There would be an approximately 15 percent net decrease in the overall woodlands and a 12 percent net increase in open fields or grassland within the park. Overall, the reduction of woodlands by mechanical methods or with prescribed fire would have a minor change in the area of vegetative or wildlife communities within the park as a whole; however, based on the anticipated acreage of woodland cleared, minor short-term adverse impacts would occur from the disruption of the habitat. The reduction of woodlands is necessary to rehabilitate the battlefield landscape, giving visitors a more direct visual understanding of the progression of the battle action. The change in vegetation communities would primarily benefit wildlife species that prefer open or edge habitats. A moderate long-term adverse cumulative impact would occur on vegetation and wildlife.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific

purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

Alternative C—The Defining Moments of the Battles of Manassas

The construction of a new visitor center to the east of Stone Bridge would have adverse impacts on vegetation and wildlife. In general, the new visitor center and associated access road and bridge would require the destruction of wildlife habitat, removal of vegetation, and displacement of wildlife species. The degree of the impact is dependent on the future location of the visitor center, road, and bridge; however, there is no location along the Bull Run stream valley where total avoidance of impacts to forested areas and wildlife habitat could occur. A moderate long-term adverse impact is likely.

The National Park Service would practice avoidance and minimization to the extent feasible during planning and design to develop appropriate mitigation to minimize impacts. Prior to implementation, the National Park Service would assess the potential impacts and evaluate the potential alternatives in accordance with the National Environmental Policy Act, Director's Order's 12, and NPS *Management Policies 2001*. Removal of the Henry Hill Visitor Center would allow rehabilitation of that area, most likely to open fields that would reflect the historic landscape.

The closure of U.S. Route 29 and VA Route 234 to heavy commuter traffic would have a beneficial impact on the wildlife at the park. The reduction in vehicular and truck traffic through the park would reduce the noise and human activity that discourages wildlife use near the road. Travel speeds would also be reduced throughout the park. With the reduction of traffic and travel speeds, the number of animals killed by vehicles would

likely be reduced. A minor long-term beneficial impact would occur on wildlife.

Creation of view corridors would result in the removal of approximately 72 acres of second growth forest to be converted into open fields. Map 4-1 shows the areas of forest removal. These acreages are estimates and are presented for comparison of the alternatives only. Bottomland forests and riparian vegetation within the perimeters of designated cut areas would be maintained. Acreage rehabilitated to open fields would provide habitat for mice, voles, hawks, deer, foxes, or other species that prefer open fields or edge habitat between forests and fields. The clearings will be maintained using a variety of potential methods, including mechanical methods as well as prescribed fire.

The removal of forest would have a minor short-term adverse impact on vegetation and wildlife. Various studies support the finding that grasslands are declining at higher rates than forested lands. In Virginia, open, idle grasslands have been reduced by 55% since 1945 (Franzreb, K. E. and K. V. Rosenberg, 1997). The conversion from forest to grassland would thereby help to offset the impacts of forest removal. The small scale of this removal (72 acres, or less than five percent of the park's forested area) would be only somewhat noticeable within the park itself. Meanwhile the value of the newly created grasslands would be such that the overall long-term regional impacts to vegetation and wildlife would be minor.

Cumulative Impacts. When combined with other past, present, and reasonably foreseeable future projects, the construction-related activities under alternative C, would have an adverse cumulative impact on vegetation and wildlife. The incremental impacts associated with alternative C would be small. The Manassas National Battlefield Park Bypass, Tri-County Parkway, and other nearby road projects have the potential to have adverse impacts on forested areas and associated wildlife because of clearing and construction activities to build the new roads. Collectively,

the cumulative impact would be anticipated to be moderate, long-term, and adverse.

Conclusion. There would be approximately a three percent decrease in the overall woodlands and a similar percent increase in open fields or grassland within the park. A minor long-term adverse impact on vegetation and wildlife would occur in the park. This decrease would result in a negligible change in the extent of vegetative communities within the park, would minimally benefit wildlife species that prefer open or edge habitats, and would negatively affect woodland species. A moderate long-term adverse cumulative impact would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

THREATENED, ENDANGERED, AND RARE SPECIES AND NATURAL COMMUNITIES

Definition of Intensity Levels

Analyses of the potential intensity of special status species were derived from the available literature on the Manassas National Battlefield Park and previous consultation/studies involving the U.S. Fish and Wildlife Service and Virginia Department of Conservation and Recreation. The thresholds of change for the intensity of impacts on special status species are defined as follows:

- *No effect:* The action would cause no effect on the special status species or critical habitat.
- and not able to be meaningfully measured, detected, or evaluated), or it would be completely beneficial.

- *Likely to adversely affect:* The action would likely result in a direct or indirect adverse effect on a species or critical habitat, and the effect would not be discountable or completely beneficial.

Duration: A short-term impact would last less than one year and would affect only one season's use by visitors or the length of construction activities. A long-term impact would last more than one year and would be more permanent in nature.

These definitions are consistent with the language used to determine effects on threatened and endangered species under Section 7 of the Endangered Species Act.

Alternative A—Continuing Current Management Practices (No-Action)

Under the no-action alternative, current management practices would have no effect on threatened, endangered, or rare species or their habitats. No actions under the current management practices were identified now or
Not likely to adversely affect: The action would be expected to result in discountable effects on a species or critical habitat (that is, extremely unlikely to occur over the next 20 years that would have an effect on threatened and endangered species because no supporting habitats would be disturbed.

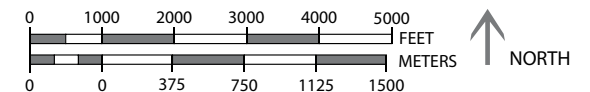
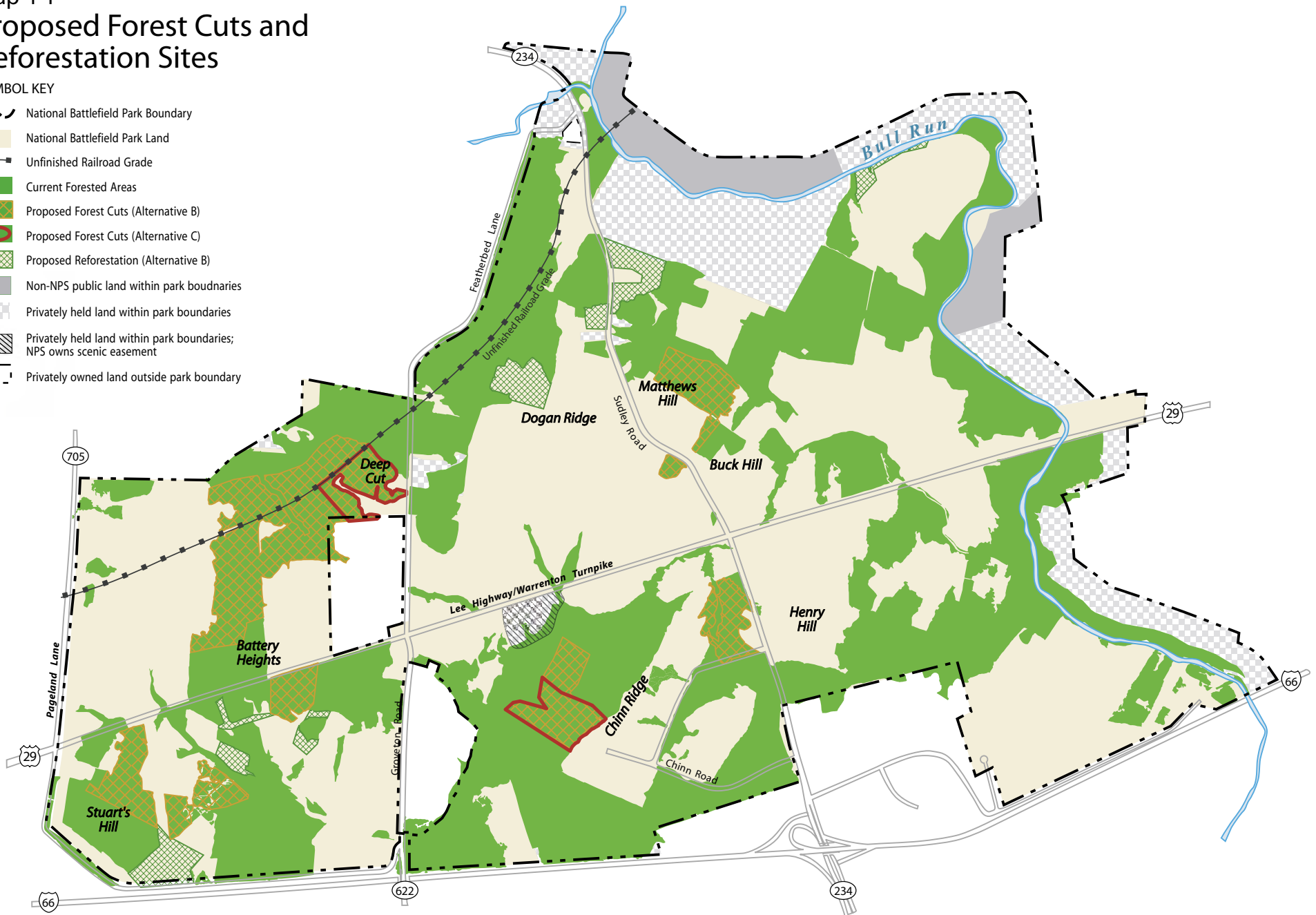
Cumulative Impacts. There would be no cumulative impact because there would be no impacts on threatened, endangered, or rare species or their habitats as a result of maintaining current management practices.

Conclusion. The no-action alternative would have no effect on threatened, endangered, or rare species or their habitats. No cumulative impact would occur. Because there would be no major adverse impact to resources or values, there would be no impairment of the park's resources or values.

Map 4-1 Proposed Forest Cuts and Reforestation Sites

SYMBOL KEY

-  National Battlefield Park Boundary
-  National Battlefield Park Land
-  Unfinished Railroad Grade
-  Current Forested Areas
-  Proposed Forest Cuts (Alternative B)
-  Proposed Forest Cuts (Alternative C)
-  Proposed Reforestation (Alternative B)
-  Non-NPS public land within park boundaries
-  Privately held land within park boundaries
-  Privately held land within park boundaries; NPS owns scenic easement
-  Privately owned land outside park boundary



Alternative B—The Two Battles of Manassas (Preferred Alternative)

There are some populations of state-listed rare plant species near segments of existing trails and other portions of the park, which could be susceptible to disturbance from trail work or other construction. It is expected that trail work could be accomplished without disturbing these populations, although slight realignment of trails may be necessary. Additional environmental studies would be conducted prior to work outside the original footprint of the existing trails at the park. No effect on these species would occur.

It is anticipated that transportation improvements would have no effect on threatened, endangered, or rare species or their habitats because, through further planning and environmental analysis for the proposed transportation improvements, such as the bridge removal, the National Park Service would practice avoidance to the greatest extent possible.

Cultural Landscape Rehabilitation. No known populations of state-listed rare plant species are within the forest removal areas. However, some populations of the listed species occur in open fields adjacent to areas to be cleared. Clearing limits and access routes would be established and clearly marked or fenced to avoid these populations. Best management practices including erosion control measures would be implemented to mitigate possible indirect impacts to these populations from runoff from disturbed areas. Acreage converted to open field would provide additional potential habitat for state rare species associated with these open habitats, which include hairy beardtongue and blue-hearts. The proposed actions described in alternative B would have no impacts on threatened, endangered, or rare species and negligible impacts on their habitats. The negligible impacts on the habitat would have no effect on species populations at the park because the habitat is still abundant.

Historic landscape modification would benefit some species of migratory birds and negatively

affect others, with an overall net loss of forest habitat and a concomitant net gain of open fields. This would be a minor long-term beneficial impact on species that prefer open fields or edge habitat, including the prairie warbler and field sparrow, which are two species of concern. Net loss of woodlands would result in no long-term adverse effect on habitat suitable for forest species, particularly area-sensitive species, which include the Acadian flycatcher and wood thrush. Overall, the loss of woodlands would have no long-term effect on the population of the species at the park because the habitat is still abundant.

Cumulative Impacts. When combined with other past, present, and reasonably foreseeable future projects, the construction-related activities under alternative B would have a short-term adverse cumulative impact on threatened and endangered species. The incremental impacts associated with alternative B would be small. The Manassas National Battlefield Park Bypass, Tri-County Parkway and other nearby road projects have the potential to have adverse impacts on rare, threatened and endangered species and associated habitat because of clearing and construction activities to build the new roads. Collectively the cumulative impact would be anticipated to be minor, long-term, and adverse.

Conclusion. The management prescriptions and proposed actions described in alternative B would have no impacts on threatened, endangered, or rare species and negligible impacts on their habitats, because no supporting habitats would be disturbed. Forest removal to create view corridors would have some minor long-term benefits for some species that prefer open fields or edge habitat, including two species of concern, the prairie warbler and field sparrow, and a minor long-term adverse effect on woodland species, including the wood thrush. No cumulative impacts would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of

Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

Alternative C—The Defining Moments of the Battles of Manassas

There are some populations of state-listed rare plant species near segments of existing trails, which could be susceptible to disturbance from trail work. It is expected that trail work could be accomplished without disturbing these populations, although slight realignment of trails may be necessary. Additional environmental study would be conducted prior to trail work outlined for alternative C.

Additional environmental analysis would be conducted prior to selecting a site for the new visitor center site. The National Park Service would fully consider the potential impacts on threatened, endangered, or rare species or their habitats and practice avoidance to the extent feasible. Best management practices, including erosion control measures, would be implemented.

It is anticipated that transportation improvements would have no effect on threatened, endangered, or rare species or their habitats because, through further planning and environmental analysis for the proposed transportation improvements, such as the bridge removal, the National Park Service would practice avoidance to the greatest extent possible.

No impacts to significant natural communities would occur. No known populations of state-listed rare plant species are within the forest removal areas. However, some populations of these species occur in open fields adjacent to one area to be cleared. Clearing limits and access routes would be established and clearly marked or fenced to avoid these populations. Best management practices, including erosion control measures, would be implemented to

mitigate possible indirect impacts to these populations from runoff from disturbed areas. Acreage converted to open fields would provide additional potential habitat for state-listed rare species associated with these open habitats, which include hairy beardtongue and blue-hearts.

Approximately 72 acres of forested habitat, less than five percent of the forested habitat within the park, would be removed and managed as open fields to provide view corridors. This would create limited additional habitat for species that prefer open fields or edge habitat between forests and fields. These impacts would not be as extensive under this alternative, as compared to alternative B, due to the relatively limited removal of woodlands. The only area-sensitive forest species known to occur within the cut areas is the wood thrush, which does occur in relatively small woodlands.

Cumulative Impacts. When combined with other past, present, and reasonably foreseeable future projects, the construction-related activities under alternative C would have a short-term adverse cumulative impact on threatened and endangered species. The incremental impacts associated with alternative C would be small. The Manassas National Battlefield Park Bypass, Tri-County Parkway and other nearby road projects have the potential to have adverse impacts on rare, threatened and endangered species and associated habitat because of clearing and construction activities to build the new roads. Collectively the cumulative impact would be anticipated to be minor, long-term, and adverse.

Conclusion. The management prescriptions and proposed actions described in alternative C would have no to negligible impacts on threatened, endangered, or rare species or their habitats species because no supporting habitats would be disturbed. Forest removal to create view corridors would have some minor benefits for the prairie warbler, which prefers open fields or edge habitat, and minor negative effect on woodland species, including the

wood thrush. No cumulative impacts would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

WATER RESOURCES (WATER BODIES, WATER QUALITY, WETLANDS, AND FLOODPLAINS)

Methodology

The impacts discussed for water resources are qualitative because the actions described under each alternative are conceptual at this stage of the planning process. Additional planning and environmental analyses would be conducted to determine site-specific impacts as more detailed plans are developed.

Definition of Intensity Levels

Analyses of the potential intensity of water resources were derived from the available literature on the Manassas National Battlefield Park. The thresholds of change for the intensity of impacts on water resources are defined as follows:

- *Negligible:* An action would have no measurable or detectable effect on the quality, functions, or values of water bodies, wetlands, floodplains, or water quality. The impact is localized and not measurable or at the lowest level of detection.
- *Minor:* An action would have measurable effects on the quality, functions, or values of water bodies, wetlands, floodplains, or water quality. The impact is localized and slight but detectable.
- *Moderate:* An action would have clearly detectable effects on the quality, functions, or values of water bodies, wetlands, floodplains, or

water quality. The impact is readily apparent and appreciable.

- *Major:* An action would have substantial effects on the quality, functions, or values of water bodies, wetlands, floodplains, or water quality. The impact is severely adverse and highly noticeable.
- *Duration:* A short-term impact would last less than one year and would affect only one season's use by visitors. A long-term impact would last more than one year and would be more permanent in nature.

Alternative A—Continuing Current Management Practices (No-Action)

Under the no-action alternative, the National Park Service would continue current management practices. Ongoing management activities, such as small-scale scene rehabilitation, could have adverse impacts on water resources from sediment erosion during forest removal or construction activities. With best management practices, no adverse impacts would be expected because the area of disturbance would be a sufficient distance from any water resources, and the indirect effects of sediment erosion would be minimized through the use of best management practices such as silt fence.

Cumulative Impacts. No cumulative impact would occur because the no-action alternative would have no adverse impacts on water resources.

Conclusion. The no-action alternative would have no impacts on water resources. No cumulative impact would occur. Because there would be no major adverse impact to resources or values, there would be no impairment of the park's resources or values.

Alternative B—The Two Battles of Manassas (Preferred Alternative)

The upgrade of the Second Manassas Visitor Contact Station at Stuart's Hill and upgrades to the access road and parking lot could have adverse impact on water resources. The proposed upgrades would not directly affect wetlands or floodplains, but sediment runoff

into nearby water resources could occur. With the use of sediment and erosion control measures, the adverse impact would be short-term and negligible.

Transportation-related improvements under alternative B would have limited actions in the waters, wetlands, or floodplains. The removal of commuter and truck traffic—and the associated reductions in pollution from those vehicles—from the portions of US Route 29 and VA Route 234 that run through the park would have a long-term beneficial impact to water resources by reducing the amount of polluted runoff that would reach these resources. The removal of the U.S. Route 29 bridge over Bull Run would have a long-term beneficial impact to the stream and floodplain and minor short-term adverse impacts during demolition. Minor sediment erosion would occur, although appropriate sediment and erosion control practices could make the adverse impacts to Bull Run negligible. Additional environmental analysis and documentation would be conducted by the National Park Service prior to removal of the bridge.

No seasonally flooded bottomland forests, including riparian stream corridors, and seasonally flooded depressions or pools would be affected by construction or historic scene rehabilitation proposals. Riparian buffers would be maintained along all streams to mitigate potential bank erosion and channel siltation from forest removal areas. Forest removal operations would also incorporate Virginia Department of Forestry best management practices to avoid erosion problems, particularly where disturbance would occur on slopes. No new construction or historic scene rehabilitation proposals would occur within 100-year floodplains. The adverse impact on water resources would be short-term and negligible.

Existing structures within the 100-year floodplains that would continue to be preserved under the alternatives include the Stone House and Thornberry House. Continued preservation of these historic structures, whose locations are integral to their

significance, is considered an excepted action under National Park Service guidelines for compliance with Executive Order 11988, “Floodplain Management.” No new construction or historic scene rehabilitation proposals would occur within 100-year floodplains. Preservation and maintenance activities would have no to negligible impacts **on water resources.**

Cumulative Impacts. No cumulative impact would occur because the alternative B would have no to negligible impacts on water resources.

Conclusion. Implementation of alternative B would have no to negligible adverse impacts on water resources. The removal of the U.S. Route 29 bridge would likely have a minor long-term beneficial impact on the floodplain and stream and negligible short-term adverse impacts during demolition. The National Park Service would conduct additional environmental analysis and documentation prior to removal of the bridge. No cumulative impact would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior’s order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park’s resources or values would not be impaired.

Alternative C—The Defining Moments of the Battles of Manassas

Under alternative C, the National Park Service would construct a new single visitor center to the east of Stone Bridge. Appropriate sediment and erosion control practices would mean that the construction of the visitor center itself would likely have no to negligible adverse impacts on water resources, specifically Bull Run and its associated wetlands and floodplains. However, the new visitor center

would require a new bridge over Bull Run and associated approach roads to connect the visitor center with U.S. Route 29. These actions would have adverse impacts on water resources.

The removal of commuter and truck traffic—and the associated reductions in pollution from those vehicles—from the portions of US Route 29 and VA Route 234 that run through the park would have a long-term beneficial impact to water resources by reducing the amount of polluted runoff that would reach these resources. The removal of the existing U.S. Route 29 bridge would have a long-term, beneficial impact to the stream and floodplain and minor short-term, adverse impacts during demolition. Minor sediment erosion would occur. However, through appropriate sediment and erosion control practices, the adverse impacts to Bull Run would be negligible. Additional environmental analysis and documentation would be conducted by the National Park Service prior to removal of the bridge.

A new road and bridge over Bull Run would be built to connect the new visitor center with U.S. Route 29. This action would have moderate long-term adverse impacts on the stream, the floodplain, and potentially wetlands. The location of the new visitor center and access roads would depend on the alignment of the proposed Battlefield Bypass. An additional study would be conducted prior to selecting any location and alignment. The National Park Service would practice avoidance and minimization to the extent feasible during the planning and design, and would then develop appropriate mitigation to minimize impacts. Prior to making any decisions or implementation, the National Park Service would assess the potential impacts and evaluate the potential alternatives in accordance with the National Environmental Policy Act, Director's Order's 12, and NPS *Management Policies 2001*.

No seasonally flooded bottomland forests, including riparian stream corridors, and/or seasonally flooded depressions or pools would be affected by construction or historic scene

rehabilitation proposals. Riparian buffers would be maintained along all streams to mitigate potential bank erosion and channel siltation from forest removal areas. Forest removal operations would also incorporate Virginia Department of Forestry best management practices to avoid erosion problems, particularly where disturbance would occur on slopes. No new construction or historic scene rehabilitation proposals would occur within 100-year floodplains.

Existing structures within the 100-year floodplains that would continue to be preserved under the alternatives include the Stone House and Thornberry House. Continued preservation of these historic structures, whose locations are integral to their significance, is considered an excepted action under National Park Service guidelines for compliance with Executive Order 11988, "Floodplain Management." No new historic scene rehabilitation proposals or construction related to preservation and maintenance of historic structures would occur within 100-year floodplains. Preservation and maintenance activities would have no to negligible impacts on water resources.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects such as road projects described in the cumulative impact scenario could have moderate long-term adverse impacts on water resources from construction activities depending on the final corridor selected for each road alignment. Alternative C would add a moderate incremental impact. When these impacts are combined with the construction-related impacts of alternative C, the cumulative adverse impact would be anticipated to be long-term and moderate.

Conclusion. Implementation of alternative C would have moderate long-term adverse impacts on water resources. The new bridge over Bull Run and its associated approach roads would have to cross Bull Run's floodplain and potentially its related wetlands. The new access road and bridge would have moderate long-term, adverse, impacts on the floodplain, stream, and potentially wetlands.

Similar to alternative B, the removal of the U.S. Route 29 bridge would likely have a minor long-term beneficial impact on the floodplain and stream and negligible short-term adverse impacts during demolition. The National Park Service would conduct additional environmental analysis and documentation for each of these actions. A moderate long-term adverse cumulative impact would occur.

Because there would be no major adverse impacts on a resource or value whose

conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

IMPACTS ON CULTURAL RESOURCES

CULTURAL RESOURCES LISTED, OR ELIGIBLE TO BE LISTED, IN THE NATIONAL REGISTER OF HISTORIC PLACES

Potential impacts to cultural resources (archeological resources, 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 §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 the resource's 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 adverse effect (36 CFR 800.5(b)).

In this general management plan/environmental impact statement 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.

MUSEUM COLLECTIONS

Potential impacts to museum collections (prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens) are described in terms of context (are the effects site-specific, local, or even regional?), duration (are the effects short-term – lasting less than a year, long-term – lasting more than a year, or permanent?) and intensity (is the degree or severity of effects negligible, minor, moderate, or major). The definitions of impact intensity for museum collections follow:

Negligible: impact is at the lowest levels of detection — barely measurable with no perceptible consequences, either adverse or b

Minor: would affect the integrity of few items in the museum collection but would not degrade the usefulness of the collection for future research and interpretation

Moderate: would affect the integrity of many items in the museum collection and diminish the usefulness of the collection for future research and interpretation

Major: would affect the integrity of most items in the museum collection and destroy the usefulness of the collection for future research and interpretation

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Archeological Resources

Archeological resources adjacent to or easily accessible from public access areas would be vulnerable to surface disturbance, inadvertent damage, and vandalism. Soil compaction, a loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence would result. Continued

ranger patrol and increased emphasis on visitor education would help discourage inadvertent disturbance of cultural remains and vandalism, and any sites or areas with archeological resources that are subject to continued degradation could be closed to visitor access to better protect the resources. Few, if any, adverse effects would be anticipated.

The limited construction associated with implementation of alternative A (small parking areas and short loop trails and the installation of interpretive displays) could potentially impact archeological resources. Archeological surveys would precede any construction, and known archeological resources would be avoided to the greatest extent possible. If national register eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the Virginia State Historic Preservation Officer. Any construction-related impacts to such archeological resources would be adverse; however, because archeological resources would be avoided to the greatest extent possible no adverse impacts are anticipated.

Cumulative Impacts. The construction of U.S. Route 29 and VA Route 234, as well as the development of the Manassas visitor center and other park infrastructure, may have adversely impacted archeological resources due to disturbance during excavation and construction activities.

In addition the development and expansion of communities near the park may also have disturbed archeological resources outside park boundaries, and the continuation of such development could result in future adverse impacts to archeological resources. Other present and reasonably foreseeable actions occurring throughout the region, e.g., construction of the Tri-County Parkway, battlefield bypass, and other road projects, also have the potential to disturb archeological resources outside the park's boundaries. Impacts to national register eligible archeological resources that could not be avoided would be adverse.

As described above, actions associated with implementation of alternative A could potentially impact archeological resources at the park. Few if any adverse effects to archeological resources are anticipated from inadvertent damage or vandalism; however, if national register listed or eligible archeological resources could not be avoided during the construction of parking areas, trails, and interpretive displays, the impacts to such archeological resources would be adverse. Because significant archeological resources would be avoided to the greatest extent possible during implementation of alternative A, the actions associated with the alternative would be expected to contribute only minimally, if at all, to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative A would be a very small component of that cumulative impact.

Conclusion. Few if any adverse effects to archeological resources are anticipated due to inadvertent disturbance or vandalism. Avoidance of national register listed or eligible archeological resources during the construction would result in no adverse impacts to archeological resources. If significant archeological resources could not be avoided during construction, the impacts to such resources would be adverse. A memorandum of agreement, in accordance with 36 CFR Part 800.6, *Resolution of Adverse Effects*, would be negotiated between the staff of Manassas National Battlefield Park and the Virginia State Historic Preservation Officer. The memorandum of agreement would stipulate how the adverse effects would be mitigated.

The actions associated with alternative A would be expected to contribute only minimally, if at all, to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative A would be a

very small component of the cumulative impact.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Historic Structures and Cultural Landscapes

To appropriately preserve and protect national register listed or eligible historic structures and cultural landscapes, all stabilization and preservation 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). Consequently stabilization and preservation would have no adverse effects on historic structures and cultural landscapes.

Preparation of historic structure reports or cultural landscape reports, as appropriate, would precede the rehabilitation of national register listed or eligible historic structures or cultural landscapes, and any rehabilitation would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during the rehabilitation of historic structures would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work. Rehabilitation would have no adverse effects on historic structures or cultural landscapes.

Careful design would ensure that the construction of small parking areas and loop trails, as well as the installation of interpretive displays, would minimally affect the scale and visual relationships among landscape features. In addition, the topography, vegetation, and

land use patterns of landscapes would remain largely unaltered. No adverse impacts would be anticipated.

Continued uncontrolled access to U.S. Route 29 and VA Route 234 by commuter traffic and commercial trucks would cause dissonant sights and sounds to intrude on the battlefield landscape, and vibrations generated by traffic could impact the integrity of the Stone House. Impacts to both the cultural landscape and the Stone House would be adverse.

Cumulative Impacts. Over the years historic structures in Manassas National Battlefield Park have been adversely impacted by the wear and tear associated with visitor access, natural processes such as weathering and erosion, and development. Construction of U.S. Route 29 and VA Route 234, the development of the Manassas visitor center and other park infrastructure, erosion, and the growth of woodlands in what were once grasslands and scrublands have also adversely affected the park's cultural landscapes, resulting in the alteration of landscape elements such as topography, spatial organization, land use patterns, and vegetation.

As described above, the impacts associated with implementation of alternative A would primarily result in no adverse effects to the park's historic structures and cultural landscapes. Because the actions associated with alternative A would contribute only minimal adverse impacts to the adverse impacts of other past, present, or reasonably foreseeable actions, the adverse impacts of alternative A would be a small component of the adverse cumulative impact.

Conclusion. There would be no adverse effects associated with either the preservation and rehabilitation of historic structures and cultural landscapes or the construction of small parking areas, loop trails, and interpretive displays. Continued uncontrolled access to U.S. Route 29 and VA Route 234 by commuter traffic and commercial trucks would intrude on the battlefield landscape, and vibrations generated by traffic could impact the integrity of the Stone House. Because the actions

associated with alternative A would contribute only minimal adverse impacts to the adverse impacts of other past, present, or reasonably foreseeable actions, the adverse impacts of alternative A would be a small component of the adverse cumulative impact.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Museum Collections

Manassas National Battlefield Park's museum collections, both on-site and off-site, would continue to be adequately inventoried, accessioned, and protected according to NPS standards. Because on-site storage facilities are nearing capacity, eventually more of the park's museum collections would need be moved to an off-site facility, such as the Museum Research Center in Landover, Maryland (where the bulk of the park's museum collections are stored). The utmost care would be exercised during the packing, moving, and unpacking of all collections; therefore, potential impacts to museum collections associated with the risk involved in moving artifacts and archives would be negligible and short term.

Moving additional artifacts and archives from the park to a facility outside the park would be less convenient for park staff that require use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research.

Cumulative Impacts. Manassas National Battlefield Park's museum collections would continue to be adequately stored and protected according to NPS standards, both on-site and off-site. In the future more of the

park's museum collections would have to be moved to an off-site repository for adequate curation, storage, and research. Prior to the establishment of the park in 1940, artifacts and archives associated with the First and Second Battles of Manassas may not have received the care and protection such resources are accorded today. Adverse impacts would have been long term and of minor to moderate intensity.

As described above, implementation of alternative A would potentially contribute both minor to moderate adverse and beneficial impacts to the minor to moderate adverse impacts of other past, present, and reasonably foreseeable actions. The cumulative impact to museum collections, however, would be beneficial, long term, and of minor to moderate intensity.

Conclusion. Museum collections would continue to be adequately stored and protected according to NPS standards, both on-site and off-site. Moving artifacts and archives from the park to a facility outside of the park would be less convenient for park staff that requires use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long-term, and of minor to moderate intensity.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Archeological Resources

Archeological resources adjacent to or easily accessible from public access areas would be vulnerable to surface disturbance, inadvertent damage, and vandalism. Soil compaction, a loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence would result. Continued ranger patrol and increased emphasis on visitor education would help discourage inadvertent destruction of cultural remains and

vandalism, and any sites or areas with archeological resources that are subject to continued degradation could be closed to visitor access to better protect the resources. Few if any adverse effects would be anticipated.

A number of actions associated with implementation of alternative B (e.g., constructing new visitor facilities at the Brawner Farm; landscape rehabilitation; installation of underground utilities for new facilities; development of auto/bicycle tour routes, parking areas, hiking and equestrian trails and restrooms; and building a new entrance road to the Brawner Farm and a new access road to park and visitor facilities at Stuart's Hill) could potentially impact archeological resources. Archeological surveys would precede any construction, and known archeological resources would be avoided during construction to the greatest extent possible. If national register eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the Virginia State Historic Preservation Officer. Any construction-related impacts to such archeological resources would be adverse; however, because archeological resources would be avoided to the greatest extent possible no adverse impacts are anticipated.

Prior to the relocation of the existing visitor center at Henry Hill or the removal of the U.S. Route 29 bridge, and before the clearing of trees for landscape rehabilitation, surveys for archeological resources would be designed and conducted in consultation with the Virginia State Historic Preservation Officer. Significant archeological resources would be left *in situ* if possible. If disturbance of such resources was unavoidable, the excavation, recordation, and mapping of the resources would be completed before the removal of the structures or trees, to ensure that significant archeological data that otherwise would be lost is recovered and documented. Impacts to any national register eligible archeological resources would be adverse.

The extent of archeological resources associated with the First and Second Battles of Manassas in the four tracts of land (Davis Tract, Stonewall Memory Garden Tract, Conservation Trust Parcel, Dunklin Monument) proposed for acquisition by the park is unknown. However, transfer of this land to the National Park Service would ensure that any archeological resources discovered would be accorded the protection of federal preservation law, e.g., section 106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*) – a beneficial effect.

Cumulative Impacts. The construction of U.S. Route 29 and VA Route 234, as well as the development of the Manassas visitor center and other park infrastructure, may have adversely impacted archeological resources due to disturbance during excavation and construction activities.

In addition, the development and expansion of communities near the park may also have disturbed archeological resources outside park boundaries, and the continuation of such development could result in future adverse impacts to archeological resources. Other present and reasonably foreseeable actions occurring throughout the region, e.g., construction of the Tri-County Parkway, battle-field bypass, and other road projects, also have the potential to disturb archeological resources outside the park's boundaries. Impacts to national register eligible archeological resources that could not be avoided would be adverse.

As described above, actions associated with implementation of alternative B could potentially impact archeological resources at the park. Few, if any, adverse effects to archeological resources are anticipated from inadvertent damage or vandalism. If, however, national register listed or eligible archeological resources could not be avoided during either construction or the relocation of the Henry Hill visitor center and removal of the U.S. Route 29 bridge, or during the removal of trees for landscape rehabilitation, the impacts to such archeological resources would be adverse. Because significant archeological

resources would be avoided to the greatest extent possible during implementation of alternative B, the actions associated with the alternative would be expected to contribute only minimally to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative B would be a small component of that cumulative impact.

Conclusion. If significant archeological resources could not be avoided during construction, the impacts to such resources would be adverse. A memorandum of agreement, in accordance with 36 CFR Part 800.6, *Resolution of Adverse Effects*, would be negotiated between the staff of Manassas National Battlefield Park and the Virginia State Historic Preservation Officer. The memorandum of agreement would stipulate how the adverse effects would be mitigated.

The actions associated with alternative B would be expected to contribute only minimally to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative B would be a small component of that cumulative impact.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Historic Structures and Cultural Landscapes

To appropriately preserve and protect national register listed or eligible historic structures and cultural landscapes, all stabilization and

preservation 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). Consequently, stabilization and preservation would have no adverse effects upon historic structures and cultural landscapes.

Historic structures could suffer increased wear and tear from higher levels of 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. Continued ranger patrol and increased emphasis on visitor education would help discourage inadvertent harm to or vandalism of historic structures, and any structures subject to continued degradation could be closed to visitor access to better protect the resources. Few, if any, adverse effects would be anticipated.

Preparation of historic structure reports or cultural landscape reports, as appropriate, would precede the rehabilitation of national register listed or eligible historic structures or cultural landscapes, and any rehabilitation would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1995). Any materials removed during the rehabilitation of historic structures would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work. Rehabilitation would have no adverse effects upon historic structures or cultural landscapes.

As noted above, preparation of a cultural landscape report would precede the rehabilitation of the battlefield landscape. Clearing trees that were not present during either battle and returning the landscape to grasslands and/or scrubland would convert the landscape to more of a semblance of its historic appearance. Vistas of the battlefield would again show the relationship of hills, ridges, and water features

to the positions of the embattled Union and Confederate troops, and contribute to a better understanding of both battles by the visitor. There would be no adverse impacts to cultural landscapes.

Removing the U.S. Route 29 bridge over Bull Run would eliminate a modern intrusion from the viewshed of the stone bridge and the battlefield landscape. Removal of the bridge would have a beneficial effect upon the cultural landscape.

New construction for a Second Manassas Visitor Contact Station at the Brawner Farm would be carefully sited to be as visually unobtrusive as possible, and to minimally affect the scale and visual relationships among character defining landscape features. Sensitive design of the new facilities, the use of appropriate materials and colors in construction, and select plantings of native vegetation as visual buffers, if necessary, would permit new facilities to be as compatible as possible with the historic landscape. No adverse effects would be anticipated.

Careful design would ensure that the rehabilitation of parking areas and the expansion or development 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 any historic district or cultural landscape would remain largely unaltered, resulting in no adverse effects.

The under-grounding of utilities for new facilities would have minimal, if any, effect on the existing topography, spatial organization, or land use patterns of historic sites or cultural landscapes. Once the underground utility line is installed and the trench is backfilled, the disturbed ground would be restored to its pre-construction contour and condition and appropriately revegetated as necessary. There would be no adverse impacts to cultural landscapes.

Restricting access to U.S. Route 29 and VA Route 234 by commuter traffic and

commercial trucks would reduce dissonant sights and sounds that currently intrude upon the battlefield landscape. Such restrictions would also reduce traffic vibrations that could potentially impact the integrity of the Stone House. Restricting commuter traffic and commercial truck access to U.S. Route 29 and VA Route 234 would result in a beneficial impact to historic structures and cultural landscapes.

Cumulative Impacts. Over the years historic structures in Manassas National Battlefield Park have been adversely impacted by the wear and tear associated with visitor access, natural processes such as weathering and erosion and development. Construction of U.S. Route 29 and VA Route 234, the development of the Manassas visitor center, and other park infrastructure, erosion, and the growth of woodlands in what were once grasslands and scrublands have also adversely affected the park's cultural landscapes, resulting in the alteration of landscape elements such as topography, spatial organization, land use patterns, and vegetation.

As described above, the impacts associated with implementation of alternative B would primarily result in no adverse effects to the park's historic structures and cultural landscapes. Because the actions associated with alternative B would contribute only minimal, if any, adverse impacts to the adverse impacts of other past, present, or reasonably foreseeable actions, the adverse impacts of alternative B would be a very small component of the adverse cumulative impact.

Conclusion. Carefully siting and designing new construction for a Second Manassas Visitor Contact Station at the Brawner Farm would permit new facilities to be as compatible as possible with the historic landscape, and no adverse effects would be anticipated. There would be no adverse effects associated with either the preservation and rehabilitation of historic structures and cultural landscapes or the construction of small parking areas, loop trails, and interpretive displays. Clearing trees that were not present during either battle and returning the landscape to more of a

semblance of its historic appearance would contribute to a better understanding of both battles by the visitor. Restricting access to U.S. Route 29 and VA Route 234 by commuter traffic and commercial trucks would have a beneficial impact on historic structures and cultural landscapes.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Museum Collections

Manassas National Battlefield Park's museum collections, both on-site and off-site, would continue to be adequately inventoried, accessioned, and protected according to NPS standards. Because on-site storage facilities are nearing capacity, eventually more of the park's museum collections would need be moved to an off-site facility, such as the Museum Research Center in Landover, Maryland (where the bulk of the park's museum collections are stored). The utmost care would be exercised during the packing, moving, and unpacking of all collections; therefore, potential impacts to museum collections associated with the risk involved in moving artifacts and archives would be negligible and short-term.

Moving additional artifacts and archives from the park to a facility outside the park would be less convenient for park staff that require use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for *adequate curation, storage, and research*.

Cumulative Impacts. Manassas National Battlefield Park's museum collections would continue to be adequately stored and

protected according to NPS standards, both on-site and off-site. In the future more of the park's museum collections would have to be moved to an off-site repository for adequate curation, storage, and research. Prior to the establishment of the park in 1940, artifacts and archives associated with the First and Second Battles of Manassas may not have received the care and protection such resources are accorded today. Adverse impacts would have been long term and of minor to moderate intensity.

As described above, implementation of alternative B would potentially contribute both minor to moderate adverse and beneficial impacts to the minor to moderate adverse impacts of other past, present, and reasonably foreseeable actions. The cumulative impact to museum collections, however, would be beneficial, long term, and of minor to moderate intensity.

Conclusion. Museum collections would continue to be adequately stored and protected according to NPS standards, both on-site and off-site. Moving artifacts and archives from the park to a facility outside the park would be less convenient for park staff that require use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long term, and of minor to moderate intensity.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Archeological Resources

Archeological resources adjacent to or easily accessible from public access areas would be vulnerable to surface disturbance, inadvertent damage, and vandalism. Soil compaction, a loss of surface archeological materials, alteration of artifact distribution, and a reduction of contextual evidence would result. Continued ranger patrol and increased emphasis on

visitor education would help discourage inadvertent destruction of cultural remains and vandalism, and any sites or areas with archeological resources that are subject to continued degradation could be closed to visitor access to better protect the resources. Few if any adverse effects would be anticipated.

A number of actions associated with implementation of alternative C (e.g., constructing a new visitor center east of the Stone Bridge, including a new access road and bridge over Bull Run; landscape rehabilitation; installation of underground utilities for new facilities; and the development of hiking and equestrian trails, restrooms, and picnic areas) could potentially impact archeological resources. Archeological surveys would precede any construction, and known archeological resources would be avoided during construction to the greatest extent possible. If national register eligible or listed archeological resources could not be avoided, an appropriate mitigation strategy would be developed in consultation with the Virginia State Historic Preservation Officer. Any construction-related impacts to such archeological resources would be adverse; however, because archeological resources would be avoided to the greatest extent possible no adverse impacts are anticipated.

Prior to the removal of the existing visitor center at Henry Hill, the U.S. Route 29 bridge, and the parking area at Battery Heights, and before the clearing of trees for landscape rehabilitation, surveys for archeological resources would be designed and conducted in consultation with the Virginia State Historic Preservation Officer. Significant archeological resources would be left *in situ* if possible. If disturbance of such resources was unavoidable, the excavation, recordation, and mapping of the resources would be completed prior to the removal of the structures or trees, to ensure that significant archeological data that otherwise would be lost is recovered and documented. Impacts to any national register eligible archeological resources would be adverse.

Prior to the relocation of the existing visitor center at Henry Hill or the removal of the U.S. Route 29 bridge, and before the clearing of trees for landscape rehabilitation, surveys for archeological resources would be designed and conducted in consultation with the Virginia State Historic Preservation Officer. Significant archeological resources would be left *in situ* if possible. If disturbance of such resources was unavoidable, the excavation, recordation, and mapping of the resources would be completed prior to the removal of the structures or trees, to ensure that significant archeological data that otherwise would be lost is recovered and documented. Impacts to any national register eligible archeological resources would be adverse.

The extent of archeological resources associated with the First and Second Battles of Manassas in the four tracts of land (Davis Tract, Stonewall Memory Garden Tract, Conservation Trust Parcel, Dunklin Monument) proposed for acquisition by the park is unknown. However, transfer of this land to the National Park Service would ensure that any archeological resources discovered would be accorded the protection of federal preservation law, e.g., section 106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*) – a beneficial effect.

Cumulative Impacts. The construction of U.S. Route 29 and VA Route 234, as well as the development of the Manassas visitor center and other park infrastructure, may have adversely impacted archeological resources due to disturbance during excavation and construction activities.

In addition, the development and expansion of communities near the park may also have disturbed archeological resources outside park boundaries, and the continuation of such development could result in future adverse impacts to archeological resources. Other present and reasonably foreseeable actions occurring throughout the region, e.g., construction of the Tri-County Parkway, battle-field bypass, and other road projects, also have the potential to disturb archeological resources

outside the park's boundaries. Impacts to national register eligible archeological resources that could not be avoided would be adverse.

As described above, actions associated with implementation of alternative C could potentially impact archeological resources at the park. Few, if any, adverse effects to archeological resources are anticipated from inadvertent damage or vandalism. If, however, national register listed or eligible archeological resources could not be avoided during construction activities, the removal of existing structures, or during the removal of trees for landscape rehabilitation, the impacts to such archeological resources would be adverse. Because significant archeological resources would be avoided to the greatest extent possible during implementation of alternative C, the actions associated with the alternative would be expected to contribute only minimally to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative C would be a small component of that cumulative impact.

Conclusion. If significant archeological resources could not be avoided during construction, the impacts to such resources would be adverse. A memorandum of agreement, in accordance with 36 CFR Part 800.6, *Resolution of Adverse Effects*, would be negotiated between the staff of Manassas National Battlefield Park and the Virginia State Historic Preservation Officer. The memorandum of agreement would stipulate how the adverse effects would be mitigated.

The actions associated with alternative C would be expected to contribute only minimally to the adverse impacts of other past, present, or reasonably foreseeable actions. Although the cumulative impact would be adverse, any adverse impacts to archeological resources resulting from implementation of alternative C would be a small component of that cumulative impact.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Historic Structures and Cultural Landscapes

To appropriately preserve and protect national register listed or eligible historic structures and cultural landscapes, all stabilization and preservation 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). Consequently, stabilization and preservation would have no adverse effects upon historic structures and cultural landscapes.

Historic structures could suffer increased wear and tear from higher levels of 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. Continued ranger patrol and increased emphasis on visitor education would help discourage inadvertent harm to or vandalism of historic structures, and any structures subject to continued degradation could be closed to visitor access to better protect the resources. Few, if any, adverse effects would be anticipated.

Preparation of historic structure reports or cultural landscape reports would precede the rehabilitation of national register listed or eligible historic structures or cultural landscapes, and any rehabilitation would be undertaken in accordance with the *Secretary of the Interior's Standards for the Treatment of*

Historic Properties (1995). Any materials removed during the rehabilitation of historic structures would be evaluated to determine their value to the park's museum collections and/or for their comparative use in future preservation work. Rehabilitation would have no adverse effects on historic structures or cultural landscapes.

As noted above, preparation of a cultural landscape report would precede the rehabilitation of the battlefield landscape. Clearing trees that were not present during either battle and returning the landscape to grasslands and/or scrubland would convert the landscape to more of a semblance of its historic appearance. Vistas of the battlefield through the clearings would again show the relationship of hills, ridges, and water features to the positions of the embattled Union and Confederate troops, and contribute to a better understanding of both battles by the visitor. There would be no adverse impacts to cultural landscapes.

Removal of the visitor center at Henry Hill and the U.S. Route 29 bridge over Bull Run would eliminate modern intrusions from the battlefield landscape, and return the landscape to more of a semblance of its historic appearance. There would be no adverse impacts to cultural landscapes.

The new visitor center east of the Stone Bridge, including a new access road and bridge over Bull Run, would be carefully sited to be as visually unobtrusive as possible, and to minimally affect the scale and visual relationships among character-defining landscape features. Sensitive design of the new structures, the use of appropriate materials and colors in construction, and select plantings of native vegetation as visual buffers, if necessary, would permit new structures to be as compatible as possible with the historic landscape. No adverse effects would be anticipated.

Careful design would ensure that the rehabilitation of parking areas and the expansion or development 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 any historic district or cultural landscape would remain largely unaltered, resulting in no adverse effects.

The undergrounding of utilities for new facilities would have minimal, if any, effect on the existing topography, spatial organization, or land-use patterns of historic sites or cultural landscapes. Once the underground utility line is installed and the trench is backfilled, the disturbed ground would be restored to its pre-construction contour and condition and appropriately revegetated as necessary. There would be no adverse impacts to cultural landscapes.

Restricting access to U.S. Route 29 and VA Route 234 by commuter traffic and commercial trucks would reduce dissonant sights and sounds that currently intrude upon the battlefield landscape. Such restrictions would also reduce traffic vibrations that could potentially impact the integrity of the Stone House. Restricting commuter traffic and commercial truck access to U.S. Route 29 and VA Route 234 would result in a beneficial impact to historic structures and cultural landscapes.

Cumulative Impacts. Over the years historic structures in Manassas National Battlefield Park have been adversely impacted by the wear and tear associated with visitor access, natural processes such as weathering and erosion, and development. Construction of U.S. Route 29 and VA Route 234, the development of the Manassas visitor center, and other park infrastructure, erosion, and the growth of woodlands in what were once grasslands and scrublands have also adversely affected the park's cultural landscapes, resulting in the alteration of landscape elements such as topography, spatial organization, land use patterns, and vegetation.

As described above, the impacts associated with implementation of alternative C would primarily result in no adverse effects to the park's historic structures and cultural landscapes. Because the actions associated with alternative C would contribute only minimal, if any, adverse impacts to the adverse impacts of other past, present, or reasonably foreseeable

actions, the adverse impacts of alternative C would be a small component of the adverse cumulative impact.

Conclusion. Carefully siting and designing new construction for a Second Manassas Visitor Contact Station at the Brawner Farm would permit new facilities to be as compatible as possible with the historic landscape, and no adverse effects would be anticipated. There would be no adverse effects associated with either the preservation and rehabilitation of historic structures and cultural landscapes or the construction of small parking areas, loop trails, and interpretive displays. Clearing trees that were not present during either battle and returning the landscape to more of a semblance of its historic appearance would contribute to a better understanding of both battles by the visitor. Restricting access to U.S. Route 29 and VA Route 234 by commuter traffic and commercial trucks would have a beneficial impact upon historic structures and cultural landscapes.

Because there would be no adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Manassas National Battlefield Park; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant NPS planning documents, there would be no impairment of park resources or values.

Museum Collections

Manassas National Battlefield Park's museum collections, both on-site and off-site, would continue to be adequately inventoried, accessioned, and protected according to NPS standards. Because on-site storage facilities are nearing capacity, eventually more of the park's museum collections would need to be moved to an off-site facility such as the Museum Research Center in Landover, Maryland (where the bulk of the park's museum collections are stored). The utmost care would be exercised during the packing, moving, and unpacking of all collections; therefore, poten-

tial impacts to museum collections associated with the risk involved in moving artifacts and archives would be negligible and short term.

Moving additional artifacts and archives from the park to a facility outside the park would be less convenient for park staff who require use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research.

Cumulative Impacts. Manassas National Battlefield Park's museum collections would continue to be adequately stored and protected according to NPS standards, both on-site and off-site. In the future more of the park's museum collections would have to be moved to an off-site repository for adequate curation, storage, and research. Prior to the establishment of the park in 1940, artifacts and archives associated with the First and Second Battles of Manassas may not have received the care and protection such resources are accorded today. Adverse impacts would have been long-term and of minor to moderate intensity.

As described above, implementation of alternative C would potentially contribute both minor to moderate adverse and beneficial impacts to the minor to moderate adverse impacts of other past, present, and reasonably foreseeable actions. The cumulative impact to museum collections, however, would be beneficial, long term, and of minor to moderate intensity.

Conclusion. Museum collections would continue to be adequately stored and protected according to NPS standards, both on-site and off-site. Moving artifacts and archives from the park to a facility outside the park would be less convenient for park staff that requires use of the collections for research – a minor, adverse, long-term impact. However, there would be minor to moderate beneficial impacts associated with providing more space for adequate curation, storage, and research. The cumulative impact to museum collections would be beneficial, long term, and of minor to moderate intensity.

IMPACTS ON TRANSPORTATION

METHODOLOGY

In the impact analysis for transportation, the National Park Service considered the potential effects of the proposed controlled access measures (e.g., gates, entrance stations, signs, road closures, etc.) and transportation improvements on internal circulation patterns, safety, and traffic operations within the park. Only broad judgment can be made on the potential direct and secondary impacts on traffic outside the park boundaries. These potential impacts are being evaluated in detail as part of the Bypass Study. As a result, the implementation of any controlled access or road closures is dependent on the outcome of the Bypass Study, and additional analysis would be needed to further supplement the transportation analysis in this General Management Plan.

Unless specified, this impact analysis refers to the proposed transportation-related actions collectively as transportation improvements. With a large scale plan such as a general management plan, future implementation proposals would typically be tiered (procedurally connected) to this broad scale general management plan and additional planning and environmental analysis would be conducted in accordance with the National Environmental Policy Act, Director's Order 12, and NPS *Management Policies 2001*. This is especially true with the transportation improvements and controlled access measures described under alternative B and alternative C. As a result, this analysis is primarily qualitative and is designed to provide the park superintendent with overall management direction. These transportation improvements are also described under other impact topics such as soundscape, visitor experience and use, and social impacts.

Definition of Intensity Levels

Analyses of the potential intensity of transportation (traffic) were derived from various studies and information available on the traffic conditions at the Manassas National

Battlefield Park such as the *Manassas National Battlefield Park Bypass Study Existing Conditions Report* (FHWA, 2002), and the *Manassas National Battlefield Park Transportation Study* (NPS, 1996). Definitions for the thresholds of change for the intensity of impacts on transportation are as follows:

- *Negligible*: Effects would not be considered detectable and would have no discernible effect on traffic flow and/or traffic safety conditions.
- *Minor*: Effects on traffic flow and/or traffic safety conditions would be slightly detectable but not expected to have an overall effect on those conditions.
- *Moderate*: Effects would be clearly detectable and could have an appreciable effect on traffic flow and/or traffic safety conditions.
- *Major*: Effects would be substantial, with a highly noticeable influence on traffic flow and/or traffic safety conditions and could permanently alter those conditions.
- *Duration*: A short-term impact would last less than one year and would affect only one season's—or the length of construction activities—use by visitors. A long-term impact would last more than one year and would be more permanent in nature.

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Under the no-action alternative, the National Park Service would not control access on or close U.S. Route 29 or VA Route 234. The traffic signal at the intersection of U.S. Route 29 and VA Route 234 would remain in place due to heavy traffic volumes. The traffic flow and operations would continue to be adversely impacted by existing conditions.

Levels of Service are described by a letter designation ranging from “A” to “F,” with level of service “A” representing essentially uninterrupted flow, and level of service “F” representing a breakdown of traffic flow with excessive congestion and delay. The signalized intersection capacity analysis results in an overall Level of Service, representative of all

movements through the intersection. Level of service “D” or better is typically considered acceptable in most metropolitan areas. The intersection of U.S. Route 29 and VA Route 234 would continue to operate at Level of Service “F.”

As northern Virginia and Prince William County populations continue to grow, commuter traffic volumes and traffic operations on U.S. Route 29 and VA Route 234 would be expected to worsen unless a bypass is constructed, alternate routes outside the park are improved, or other controlled access measures are implemented. As the bypass alternatives are further refined, the traffic modeling for each alternative would predict the impacts of the bypass on traffic volumes on U.S. Route 29 and VA Route 234 within the park. It is anticipated that the bypass alone would reduce traffic volumes on U.S. Route 29 and VA Route 234 but not to the level that would be acceptable to the motorists. Therefore, additional control access measures would be needed to achieve the desired traffic levels and operations. Under the No-Action alternative, commuter and truck traffic would continue to have a major long-term adverse impact on transportation within the park causing excessive delays for motorists during peak periods.

Cumulative Impacts. The projects described in the cumulative impact scenario would all have beneficial impacts on transportation in the park because, taken together, they would increase regional mobility while creating a small potential reduction of traffic volumes on park roadways. Alternative A does not propose any additional projects that would create cumulative impacts. Therefore, no cumulative transportation impacts would occur under alternative A.

Conclusion. Under alternative A, the continually rising levels of non-park commuter and commercial traffic would continue to have a major long-term adverse impact on transportation within the park. It would cause excessive delays for, and could pose a safety threat to park visitors in automobiles, on bicycle, or on foot, especially during peak periods. No cumulative impacts would occur.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Under alternative B, the National Park Service would implement traffic control measures to eliminate commuter traffic in the park. For the purposes of this study, the National Park Service considered a scenario that included the construction of gates, entrance stations, or some other form of control in the following locations: on VA Route 234 north of the Northern Virginia Community College entrance, along VA Route 234 north of VA Route 622 (Featherbed Lane), and along U.S. Route 29 east of VA Route 705 (Pageland Lane). In addition, the National Park Service would remove the U.S. Route 29 bridge over Bull Run.

Controlling access into the park on VA Route 234 north of the Community College has a dual purpose: eliminating commuter traffic and collecting fees to generate park revenue. As a result, the access control facility would likely be in the form of an entrance station. In addition, an entrance station may be desirable at the other park entrances to collect park fees. Under this scenario, all commuter traffic would be expected to be diverted to other roadways outside the park because of the controlled access measures at each of the three major entrances into the park.

A bypass or combination of measures described above could be successful in reducing commuter traffic in the park. Therefore, phased implementation of controlled measures is being considered by the National Park Service. Additional study would be performed to determine the appropriate controls devices and measures. This section provides the National Park Service with general management direction that the controlled access at entry points would achieve the elimination of commuter traffic within the Park.

Under the controlled access scenario at the three major entrances, a level of service “B” or better would be achieved on the road and at each intersection. Implementation of

controlled access would have a major, direct, long-term, beneficial impact on traffic operations. The Level of Service would increase from “F” to “B.” In addition, these improvements would have an indirect, beneficial, long-term, impact to the visitor experience and pedestrian and motorist safety within the park from decreased traffic volumes with the Park. The reduction in traffic volumes would increase the visitor carrying capacity at the Park, which may allow the park to receive increased visitation and therefore increased revenues.

The placement of an entrance station on the south end of the park on VA Route 234 would require provisions to minimize the potential impacts associated with queuing of automobiles. Based on a preliminary review, the queue scenario during peak visitation would require that the National Park Service make provisions for an additional gate or entrance to minimize the delays to community college and nearby commercial properties south of the park. It is estimated that the queue for a one-lane entrance station could create considerable backups that would impact the operation of other roads, and could negatively impact nearby residences and businesses. Additional study would be required during the design of any controlled access on VA Route 234. However, the preliminary investigation indicates that provisions for a second lane would be necessary to handle the incoming traffic during peak visitation periods. It is anticipated that through future planning and design the impacts on transportation would be minimized to have no or negligible adverse impacts on the nearby college and businesses.

The U.S. Route 29 bridge over Bull Run is expected to be removed, making it impossible for traffic to enter or leave the park along this roadway. In addition, the removal of the U.S. Route 29 Bridge over Bull Run will help rehabilitate the cultural landscape and historic setting of the Stone Bridge by eliminating the modern highway bridge from the Stone Bridge viewshed. The removal of the U.S. Route 29 bridge would be part of the phased approach to reduce commuter traffic in the park and would have a major direct long-term beneficial

impact on transportation in the park. The removal of the bridge would be an irreversible commitment of resources and is described in more detail at the end of this chapter.

The series of other transportation improvements would have a beneficial impact on traffic flow, circulation, and operation as well as visitor safety. These actions include:

- Eliminating the traffic signal at the intersection of U.S. Route 29 and VA Route 234
- Reducing speed limits to 25 mph
- Designating bicycle lanes along primary roads
- Placing an additional four-way stop sign and pedestrian crossing signs placed at intersections with secondary roads and trail routes
- Replacing the orientation and directional signs

The transportation improvements proposed under alternative B would have a long-term, moderate beneficial impact on transportation systems, thereby improving motorist and pedestrian safety in the park.

Cumulative Impacts. The transportation improvements under alternative B, when combined with other past, present, and reasonably foreseeable future projects would have a beneficial cumulative impact on transportation. The incremental impacts associated with alternative B would be moderate. The transportation improvements identified in the Bypass Study, Tri-County Parkway Study, I-66 Study, and VA Route 234 Bypass North Study would have beneficial impacts on transportation because of increased capacity of the regional roadway network surrounding the park. Collectively the cumulative impact would be anticipated to be major, long-term, and beneficial.

Conclusion. The controlled access measures and removal of the U.S. Route 29 bridge over Bull Run proposed under alternative B would have a major long-term beneficial impact on transportation within the park because of the reduction in commuter and truck traffic in the park. The controlled access measures and transportation improvements would also result in a long-term moderate beneficial impact on

motorist and pedestrian safety. The impacts on transportation operations and congestion from the closure of the roads are being considered under the Bypass Study. The National Park Service would conduct additional planning and environmental analysis prior to choosing a preferred method for controlling access into the park and closing the roads to the public. Additional public outreach would be part of the planning process. The transportation improvements would have a major long-term beneficial cumulative impact on the regional transportation system when added to other regional transportation projects in the immediate vicinity of the park.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Under alternative C, many of the proposed transportation improvements (i.e., controlled access at three entrances, removal of the U.S. Route 29 bridge over Bull Run, etc.) are the same as alternative B. Therefore, the impacts associated with these actions would be the same as described for alternative B.

One exception is the new road and bridge over Bull Run on the east side of the park (in conjunction with the new visitor center). This road would also include a controlled access point. Therefore this entrance would not

increase commuter traffic volumes. Traffic circulation would be different than alternative B due to this fourth park entrance, but the change should not have an adverse impact on circulation. Potential transportation impacts associated with a new visitor center would be dependent on the specific location of the visitor center. Additional study would be conducted to further assess the potential affects on a new visitor center and new access point on transportation.

Cumulative Impacts

The cumulative impact would be the same as described for alternative B. The transportation improvements under alternative C when combined with other past, present, and reasonably foreseeable future projects would have a beneficial cumulative impact on transportation. The incremental impacts associated with alternative C would be moderate. The transportation improvements identified in the Bypass Study, Tri-County Parkway Study, I-66 Study, and VA Route 234 Bypass North Study would have beneficial impacts on transportation because of increased capacity of the regional roadway network surrounding the park. Collectively the cumulative impact would be anticipated to be major, long-term, and beneficial.

Conclusion

Overall, controlled access measures would have a major long-term beneficial impact on transportation in the park by eliminating commuter and commercial traffic and dramatically reducing traffic volumes. The transportation improvements when added to other proposed projects would have a major long-term beneficial cumulative impact on transportation. Because there would be no major adverse impact to resources or values, there would be no impairment to park resources or values.

IMPACTS ON THE SOCIOECONOMIC ENVIRONMENT

METHODOLOGY

The National Park Service applied logic, experience, professional expertise, and professional judgment to analyze the impacts on the social and economic situation resulting from each alternative. The analysis focused primarily on the potential impacts to residents that require access through the park to get to their homes. Further study would be performed by the National Park Service to determine the type and location of controlled access (gates, entrance stations, signs, etc.). For this programmatic study, the impacts discussed are qualitative and additional planning and environmental analysis would be conducted to determine site-specific impacts on the socio-economic environment. As part of the Bypass Study, the Federal Highway Administration is considering the potential impacts to the social-economic environment outside park boundaries resulting from the closure of U.S. Route 29 and VA Route 234 to heavy commuter traffic.

Definition of Intensity Levels

Definitions for the thresholds of change for the intensity of impacts on socioeconomics are as follows:

- *Negligible*: Impacts on socioeconomic conditions would be below or at the level of detection. The impact is localized and not measurable or at the lowest level of detection.
- *Minor*: Impacts on socioeconomic conditions would be slight but detectable.
- *Moderate*: Impacts on socioeconomic conditions would be readily apparent and would result in changes to socioeconomic conditions on a local scale.
- *Major*: Impacts on socioeconomic conditions would be readily apparent, resulting in demonstrable changes to socioeconomic conditions in the region.
- *Duration*: In general, short-term impacts are temporary in duration and typically are transitional effects associated with implementation of an action (e.g., related to construction activities) and are less than one

year. In contrast, long-term impacts may have a permanent effect on the socioeconomic environments and their effect extends beyond one year.

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Under the no-action alternative, there would be no change in the ability of an individual to access residential areas or private or public facilities in or adjacent to the park boundaries. There would be no change to local businesses that use U.S. Route 29 and VA Route 234 to transfer goods and commodities. Therefore, no impact to the social-economic environment would occur.

Cumulative Impacts

No cumulative impacts would occur because there would be no impact or change to the socioeconomic environment caused by the no-action alternative.

Conclusion

The no-action alternative would have no impacts to the socioeconomic environment. No cumulative impact would occur. Because there would be no major adverse impact to resources or values, there would be no impairment of the park's resources or values.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Under the controlled access scenario described in the transportation section, residents would be required to enter their properties through some method of controlled access such as a gate, entrance station, etc. The National Park Service would make special provisions for residents who require access through the park to get to their property. These provisions would give the residents and their guests and service providers the ability to use the gates as needed for the purposes of

accessing their home and/or property. It is anticipated the effects on residents would be the equivalent to living within a gated residential community. The inconvenience to residents is estimated on average to be less than 30 seconds each time someone has to use the gate.

The time associated with using the gate would be offset by eliminating the delays associated with current traffic conditions within the park. For instance, during peak commuter traffic, residents currently have to wait through as many as two to three traffic signal cycles (up to two minutes) to pass through the intersection of VA Route 234 and U.S. Route 29. Under alternative B, commuter traffic would be substantially reduced with levels of service at major intersections and roads within the park improving to level of service “B” or better. Overall, the controlled access measures would have long-term, beneficial impacts on the social setting because of decreased delays at intersections and reduced traffic volumes on the state and U.S. routes in the park.

The removal of the U.S. Route 29 bridge over Bull Run would inconvenience residents who currently use this entrance to access their homes. Under alternative B, these residents would be required to use the Battlefield Bypass or alternative routes such as Interstate 66. The adverse impacts associated with the removal of the U.S. Route 29 bridge are expected to be minor and long-term to residents living within or adjacent to the park. Only a few residents would experience an inconvenience from having to use an alternate route, and their additional traveling distance would be less than 5 miles. Impacts of this closure to residents living outside of the park are discussed in the Bypass Study.

The implementation of gates or controlled access would provide residents the security benefits that are typically associated with a gated community. Controlled access would eliminate access to property within the park boundaries for individuals who do not have permission or purpose.

Special provisions would be made for expedited park access for emergency response vehicles. In most cases, response times would be shorter than current conditions permit because the commuter traffic within the park would be eliminated. The removal of the U.S. Route 29 bridge over Bull Run would be expected to have negligible impacts on emergency response, since a number of emergency response stations service the park from the west and south. The Manassas National Battlefield Park is served primarily by Stonewall Jackson Volunteer Fire Department, Station 11, at 7814 Garner Drive, Manassas. The station is approximately 1.7 miles from the southern entrance on VA Route 234 and approximately 3 miles from the central area of the park. The response time is approximately 5 minutes, but may be greater depending on traffic congestion on the roads. The response time would not be expected to change due to the development of controlled access points on VA Route 234 and U.S. Route 29 because reduced traffic congestion (made possible by the bypass) would offset any additional time necessary to enter through the controlled access points.

Road closures and controlled access would have adverse impacts on nearby local businesses that use U.S. Route 29. The impacts are quite dependent on the location of a bypass and are therefore being considered as part of the Bypass Study. The impacts associated with controlled access would be minor if a bypass route is provided and would likely affect only a few businesses.

Other proposed actions under alternative B such as orientation and visitor services; cultural landscape rehabilitation; and preservation and maintenance of historic structures would have no or negligible adverse impacts to residents or businesses within or adjacent to the park boundaries.

Cumulative Impacts

When combined with other past, present, and reasonably foreseeable future projects such as pending road construction projects, the socioeconomic impacts of alternative B, would have

adverse cumulative impacts. The socioeconomic impacts are largely dependent on the alternatives selected for each pending road project. However, the impacts would likely be minor because of the potential impacts on only a few residents. The incremental impacts associated with implementation of alternative B would be expected to be small. Therefore, the cumulative impacts would be anticipated to be minor.

Conclusion

Implementation of alternative B would have negligible long-term adverse impacts on residents living within controlled access area because the delays associated with controlled access measures and removal of the U.S. Route 29 bridge over Bull Run. The impacts would be offset by the reduction in traffic and associated delays at the intersections within the park. In addition, there would be the added security benefit to residents living within the confines of a gated area. Negligible impacts to emergency response would occur. The National Park Service would conduct additional planning and environmental analysis prior to implementation. Minor, adverse cumulative impacts would occur.

Because there would be no major adverse impacts on a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the Secretary of Interior's order establishing Manassas National Battlefield Park; (2) key to its natural or cultural integrity or to opportunities for its enjoyment; or (3) identified as a goal in its general management plan or other relevant National Park Service planning documents, the park's resources or values would not be impaired.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Under alternative C, the proposed transportation improvements (i.e., controlled access at entrances, removal of the U.S. Route 29 bridge over Bull Run, etc.) are similar to alternative B, with the addition of a fourth entry point on the eastern side of the park. Therefore, the impacts on the socioeconomic environment would be similar to that described for alternative B.

Cumulative Impacts

When combined with other past, present, and reasonably foreseeable future projects such as pending road construction projects, the socioeconomic impacts of alternative C, would have adverse cumulative impacts. The socioeconomic impacts are largely dependent on the alternatives selected for each pending road project. However, the impacts would likely be minor because of the potential impacts on only a few residents. The incremental impacts associated with implementation of alternative B would be expected to be small. Therefore, the cumulative impacts would be anticipated to be minor.

Conclusion

Implementation of alternative C would have negligible long-term adverse impacts on residents living within controlled access area because the delays associated with controlled access measures and removal of the U.S. Route 29 bridge over Bull Run. The impacts would be offset by the reduction in traffic and associated delays at the intersections within the park. In addition, there would be the added security benefit to residents living within the confines of a gated area. Negligible impacts to emergency response would occur. The National Park Service would conduct additional planning and environmental analysis prior to implementation. Minor, adverse cumulative impacts would occur.

IMPACTS ON RECREATION

METHODOLOGY

In the impact assessment for recreation, the National Park Service study team focused on changes to the levels of recreational opportunities for visitors of the Manassas National Battlefield Park. The National Park Service also considered the physical impacts associated with any new developmental plans and anticipated visitor uses. The context of the evaluation was the park and immediate surrounding area.

Definition of Intensity Levels

Analyses of the potential intensity levels resulting from each alternative on recreation were derived from the available information from the park, Prince William County, and regional agencies in northern Virginia. Definitions for the thresholds of change for the intensity of impacts on recreation are as follows:

- *Negligible:* The impact is localized and not measurable and would not have a noticeable effect on the level of recreation opportunities or recreation facilities available for public use.
- *Minor:* The impact is localized but detectable and would have a slight effect on the level of recreation opportunities or facilities available for public use.
- *Moderate:* The impact is readily apparent and appreciable and would result in a noticeable increase or reduction in the level of recreation opportunities or facilities available for public use.
- *Major:* The impact is severely adverse and highly noticeable. The impact would result in a permanent loss or gain of recreation opportunities or facilities available for public use.
- *Duration:* A short-term impact would last less than one year and would affect only one season's use by visitors or the length of construction activities. A long-term impact would last more than one year and would be more permanent in nature.

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Under the no-action alternative, there would be no change to recreational opportunities or facilities available at the park or at nearby parks. Current management practices would maintain the recreational opportunities such as hiking and horseback riding at the park. Outside the park, current management practices would have no effect on recreational opportunities at nearby parks, ball fields, and other recreational areas. Therefore, there would be no impact on recreation.

Cumulative Impact

No impact on recreation would occur; therefore, no cumulative impact would occur.

Conclusion

No impact on existing or future recreational opportunities or facilities would occur. No cumulative impact would occur.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Improved access and parking as well as a new equestrian trail at Stuart's Hill would enhance recreational facilities at the park. As a result of new trails, alternative B would have a minor long-term beneficial impact on recreation.

Cumulative Impact

The picnic area construction as part of the Stuart's Hill Tract Rehabilitation had recreational benefits to the park. This project, in combination with alternative B would have long-term, beneficial impacts to the park. The incremental impact from alternative B would be minor, and the overall cumulative impact would be minor and beneficial.

Conclusion

Alternative B would have a minor, long-term, beneficial impact from the addition of and/or improvements to new hiking and bridle trails. A minor beneficial cumulative effect on recreation would occur. There would be no impairment to park resources or values.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Improved access and parking as well as a new equestrian trail at Stuart's Hill would enhance recreational opportunities. As a result of new trails, alternative C would have a minor long-term beneficial impact on recreation.

Cumulative Impact

The cumulative impacts would be the same as described for alternative B. The picnic area construction as part of the Stuart's Hill Tract rehabilitation had recreational benefits to the park from the addition of the picnic area. This project in combination with alternative C would have long-term beneficial impacts to the park. The incremental impact from alternative C would be minor, and overall, the cumulative impact would be minor and beneficial.

Conclusion

Alternative C would have a minor, long-term, beneficial impact from the addition of and/or improvements to new hiking and bridle trails. A minor beneficial cumulative effect on recreation would occur. There would be no impairment to park resources or values.

IMPACTS ON VISITOR EXPERIENCE

METHODOLOGY

This impact analysis considers various aspects of visitor experience and use at Manassas National Battlefield Park. Topics include the effects on visitors' ability to experience the park's primary resources and their natural and cultural settings (including vistas, natural sounds and smells, and wildlife); overall visitor access to the park; the freedom to experience resources at one's own pace; education and interpretive opportunities; and access 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.

DEFINITION OF INTENSITY LEVELS

The thresholds of change for the intensity of impacts on visitor experience and use are defined as follows:

- *Negligible:* The impact would be a change that would not be perceptible or would be barely perceptible by most visitors.
- *Minor:* The impact would change a few visitors' experiences, which would be noticeable, but would result in little distraction or improvements in the quality of the experience.
- *Moderate:* The impact would change a large number of visitors' experiences that would result in a noticeable decrease or improvement in the quality of the experience. This would be indicated by a temporary change in frustration level or inconvenience.
- *Major:* The impact has a substantial improvement to many visitors' experiences or a severe drop in the quality of many visitors' experience, such as the addition or elimination of a recreational opportunity or a permanent change to an area.
- *Duration:* A short-term impact would last less than one year and would affect only one season's use by visitors. A long-term impact would last more than one year and would be more permanent in nature.

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Visitor experiences would continue to be adversely effected due to heavy volumes of commuter and commercial truck traffic through the park. Drivers of non-park traffic attempting to get through the park as quickly as possible conflict with the slower moving park traffic. Park visitors are usually looking for the visitor center, headquarters, and various auto tour stops throughout. The faster moving non-park traffic is distracting and potentially dangerous to park visitors attempting to locate park facilities, and often creates problems for visitors who wish to make the frequent stops and turns necessary to access the many park facilities and interpretive sites. In addition, the noise of existing traffic volumes encroaches upon the peaceful and solemn setting of the battlefield.

Visitor exposure to and understanding of the Second Battle of Manassas has continued to improve over the years especially with the additions of the Stuart's Hill and Brawner Farm tracts. Park staff has also enhanced interpretation of the battle via a separate auto tour route and the establishment of the Stuart's Hill Visitor Contact Station. However, the First Battle of Manassas still receives greater visitor attention due to the location of the Henry Hill Visitor Center near the main entrance to the park, the location of the visitor center on one of the main battle sites of First Manassas, and the difficulty of traversing the park roads due to the aforementioned traffic situation.

Park visitors would continue to have a good understanding of the two battles, but they would lack a comprehension of the overall importance of the two engagements within the context of the Civil War. In addition, they would not have an overview of the Civil War (i.e., the rationale for the War, the overall strategies of the two armies, and the factors that lead to the culmination of the conflict).

The existing condition of the historic landscape, which is noticeably different from the wartime era, would continue to influence visitor understanding of the battles.

Cumulative Impacts

The potential impacts on visitor experience is highly dependent on the corridor selected for each transportation project identified in the cumulative impact scenario. The Battlefield Bypass, I-66, and VA Route 234 Bypass North projects are expected to be close to, abut, or even in some cases, transverse park property depending on the alternate selected. These projects could have an adverse impact on the visitor experience from increased noise and changes to the viewshed. With proper planning and mitigation, the adverse impact on the visitor experience would be expected to be minor. In combination with the impacts of the no-action alternative, the cumulative impact would be moderate, long-term, and adverse.

Conclusion

Visitor experience and use continues to be adversely impacted by heavy volumes of commuter and commercial traffic. The interpretation of the two battles has improved substantially over the years, but visitor focus remains on First Manassas due to the location of the visitor center and the heavy volumes of non-park vehicles that inhibit viewing many of the Second Manassas sites. Park visitors would not have an understanding of the importance of the two battles in context of the Civil War or an overview of the Civil War in general. In addition, the failure to rehabilitate major components of the historic landscape to their wartime appearance would continue to hamper the visitor understanding of the battles. As a result of these factors, and primarily due to the conflicts between park visitors and non-park traffic, a major long-term adverse impact would occur to the visitor experience and use.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Visitor's exposure to and understanding of both battles of Manassas would be enhanced with the expansion of the Second Manassas Visitor Contact Station at Stuart's Hill (and eventually Brawner Farm), and the continued use of the Henry Hill Visitor Center. The interpretive materials at the Henry Hill Visitor Center would focus on the overall importance and strategy of the First Battle, while the Stuart's Hill facility would interpret the Second Battle. Reduced vehicular traffic in the park and improvements to the Stuart's Hill access road and parking lot would greatly facilitate use of and access to the Stuart's Hill contact station.

As a result, the Second Manassas automobile and bicycle tour route and hiking trails would receive greater levels of visitor use.

Correspondingly, those visitors interested in First Manassas would be able to focus on this battle and could follow the auto tour route created under this alternative. Visitors to both battle sites would be exposed to revised wayside exhibits that focus on the importance of each engagement and an overview of these important battles.

Visitor experience and use would be enhanced due to the removal of heavy volumes of commuter and commercial truck traffic from the park. Park visitors would be able to drive on the park roads at their own pace without being concerned about fast-moving non-park traffic. Visitors would be able to easily locate park facilities and key interpretive sites, and there would be substantially less noise due to reduced traffic volumes. The lower noise levels would be more compatible with the desired cultural and park land use.

The rehabilitation of the cultural landscape to the wartime era would greatly enhance the visitor understanding of the two Battles. Improved views to and from the battlefield would enable the visitor to better visualize the series of historic events that took place on the battlefields. The rehabilitation of the cultural

landscape would have a moderate long-term beneficial impact on the visitor experience. The loss of forested area would have negligible impacts on the visitor experience because the removed area represents a small portion of the park's forest.

The preservation and in some cases rehabilitation of historic structures and sites would ensure that the resources are preserved for future generations to enjoy. A moderate long-term beneficial impact on visitor experience would occur.

Improved access and parking as well as a new equestrian trail at Stuart's Hill would enhance the visitor experience.

Cumulative Impacts. The Battlefield Bypass, I-66 Study, Tri-County Parkway, and VA Route 234 Bypass North projects would increase regional mobility and help reduce traffic volumes in the park. Increased mobility and reduced delays to the park would improve the visitor experience. Under alternative B, the controlled access and other improvements would also increase the visitor experience by ensuring that traffic within the park is almost entirely composed of park visitors. Under alternative B, transportation improvements inside and outside the park would have a moderate beneficial cumulative impact on the visitor experience.

Conclusion. A major, long-term, beneficial impact would occur for visitor experience at Manassas National Battlefield Park from the implementation of alternative B. Visitor experience and use would be substantially improved from the removal of all commuter and commercial truck traffic from the portions of U.S. Route 29 and VA Route 234 that are within the park. Interpretation of the two battles as distinct military events would greatly enhance visitor understanding. Revising the wayside exhibits to focus on the importance of each engagement within the overall war and an overview of these important battles would also add to the visitors' knowledge. In addition, the rehabilitation of the cultural landscape to the wartime era and preservation of historic structures would greatly improve the visitor

understanding of the two battles. A moderate beneficial cumulative impact would occur for visitor experience.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Visitor exposure to and understanding of the Civil War, an overview of both battles, and the context of the battles in relationship to the Civil War would be enhanced with the new visitor center and revised interpretive media. The construction of the new visitor center would educate visitors about the overall causes of the Civil War, the strategies of the armies, and the approaches that resulted in the conclusion of the war. The impacts of the battles on local families, including African American families and communities, would be interpreted. At both battle sites, visitors would also be exposed to revised wayside exhibits that focus on the overview of these important engagements, their context in relationship to the battle, and the overall story of the Civil War. Thus, visitors would gain a much greater understanding of the Civil War and the impacts of the Battles of Manassas.

Visitor experience and use would be enhanced with the removal of heavy volumes of commuter and commercial truck traffic from the park and other transportation and circulation improvements. Park visitors would be able drive on park roads at their own pace without being concerned about fast-moving non-park traffic. They would be able to easily locate park facilities and key interpretative sites, and there would be substantially less noise associated with the lower traffic volumes. The lower noise levels would be more compatible with the desired cultural and park land use.

The development of important view corridors to key battlefield sites would enhance the visitor understanding of the two battles.

Preservation of all wartime structures would also facilitate comprehension of components of the engagements. Preservation, stabilization, and in some case rehabilitation would ensure

that the resources are preserved for future generations to enjoy. A moderate long-term beneficial impact on the visitor experience would occur.

Improved access and parking as well as a new equestrian trail at Stuart's Hill would enhance the visitor experience.

Cumulative Impacts. The cumulative impact would be the same as described for alternative B. The Battlefield Bypass, I-66 Study, Tri-County Parkway, and VA Route 234 Bypass North projects would increase regional mobility and help reduce traffic volumes in the park. Increased mobility and reduced delays to the park would improve the visitor experience. Under alternative C, the controlled access and other improvements would also increase the visitor experience. The transportation improvements resulting in increased mobility in combination with eliminating commuter and commercial traffic would have a moderate,

beneficial, cumulative impact on the visitor experience.

Conclusion. A major, long-term, beneficial impact would occur for visitor experience at Manassas National Battlefield Park from the implementation of alternative C. The visitor experience would be substantially improved by the removal of all commuter and commercial traffic from the portions of U.S. Route 29 and VA Route 234 that are in the park. Visitor exposure to and understanding of the Civil War, an overview of both Battles, and the context of the battles in relationship to the Civil War would be enhanced with revised exhibits and interpretive media. In addition, the development of important view corridors to key battlefield sites and rehabilitation of historic sites would enhance the visitor understanding of the two battles. A moderate, beneficial, cumulative impact would occur for visitor experience.

IMPACTS ON PARK OPERATIONS AND MAINTENANCE

METHODOLOGY

For the purposes of this analysis, park operations refer to the quality and effectiveness of the infrastructure (such as maintenance areas, roads, administrative facilities, etc.) used to operate the park and the ability to maintain the park's infrastructure to protect and preserve vital resources and provide for an effective visitor experience. This includes an analysis of the condition and usefulness of the facilities and developed features used to support the operations of the park.

DEFINITION OF INTENSITY LEVELS

The thresholds of change for the intensity of impacts on park operations and maintenance are defined as follows:

- *Negligible*: Park operations would not be affected or the effect would be at low levels of detection and would not have an appreciable effect on park operations.
- *Minor*: Impacts would be detectable and would be of a magnitude that would not have an appreciable effect on park operations.
- *Moderate*: Impacts would be readily apparent and result in substantial change in park operations in a manner noticeable to the staff and public.
- *Major*: Impacts would be readily apparent, result in a substantial change in park operations in a manner noticeable to staff and the public, and would be marked different for recent operations.
- *Duration*: A short-term impact would last less than one year and would affect only one season's use by visitors. A long-term impact would last more than one year and would be more permanent in nature.

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION)

Under the No-Action, the level of staffing and the use of facilities at the park would not result in a noticeable change. Recent traffic levels

within the park would adversely affect park operation because of delays during peak hours along U.S. Route 29 and VA Route 234, and at their intersection. This impact would be minor, long-term, and adverse.

Cumulative Impact

No other projects within the cumulative impact scenario were identified that would have an adverse impact on park operations and maintenance; therefore, no cumulative impact would occur.

Conclusion

A negligible, long-term, adverse impact would occur for park operations. No cumulative impact would occur.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Under alternative B, the National Park Service would update the interpretive displays, exhibits, programs, and orientation at the Henry Hill Visitor Center to focus on the story of First Manassas. The National Park Service would upgrade and expand the Stuart's Hill facility to serve as the Second Manassas Visitor Contact Station. This upgrade would entail full staffing of the facility, as well as creation of new exhibits and interpretive programs to tell the story of Second Manassas.

The updated interpretive materials and associated refocus of interpretive efforts at each visitor facility would require a minor, short-term change in level of staff effort for implementation of the concepts. It would be anticipated that the change would occur gradually over time or additional support or funding would become available to minimize the impacts on the recent park operations. The Second Manassas Visitor Contact Station would require added maintenance, protection, and interpretation. The long-term impact on park operations would be minor and adverse.

Under alternative B, the controlled access into the park and the change in ownership of the portions of U.S. Route 29 and VA Route 234 in the park would have an adverse impact on park operations. One of the concepts for controlling access at the entry points to the park includes entrance gates staffed by a park employee. Currently, the park does not have staff identified or available to fill these posts. However, entrance gates would allow the park to collect entry fees, which in turn could support these new positions.

Currently, visitors can enter the park and view many resources without stopping to pay in the visitor center. With controlled access, park operations would change, although it is anticipated that the park would collect more revenue from visitation. The National Park Service would have to commit additional staff and funding to maintain the newly acquired roads within the park. Alternative B would have a moderate long-term adverse impact on park operations and would result in a long-term change in park operations.

Cumulative Impact. No other projects within the cumulative impact scenario were identified that would have an adverse impact on park operations and maintenance; therefore, no cumulative impact would occur.

Conclusion. Alternative B would have a minor, long-term, adverse impact on park operations and maintenance due to changed operations associated with expanded visitor services at Stuart's Hill, new interpretive programs, change in ownership of the roads, and controlled access into the park. No cumulative impact would occur.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Under alternative C, the National Park Service would relocate the visitor center off Henry Hill and would construct a new visitor center to service the park. The visitor center would have interpretive displays, exhibits, programs, and orientation focused on the Comprehensive Story of the Civil War. The changed and added interpretive materials and the accompanying

refocus of park programs would require a minor, short-term change in level of staff effort for implementation of the concepts. It would be anticipated that the change would occur gradually over time or additional support would become available to minimize the impacts on the recent park operations. The long-term impact on park operations and maintenance would be minor and adverse.

Under alternative C, the controlled access into the park and the change in ownership of the roads would have an adverse impact on park operations. One of the concepts for controlling access at the entry points to the park is entrance gates serviced by a park employee. Currently, the park does not have staff identified or available to service these posts. However, entrance gates would allow the park to collect entry fees, which in turn could support these new positions.

Currently, visitors can enter the park and view many resources without stopping to pay in the visitor center. With controlled access, park operations would change although it is anticipated that the park would collect more revenue from visitation into the park. With the change in ownership of the roads, the National Park Service would have to commit staff and funding to maintain the roads within the park. Alternative C would have a moderate long-term adverse impact on park operation and would result in a long-term change in park operations.

Cumulative Impact

No other projects within the cumulative impact scenario were identified that would have an adverse impact on park operations and maintenance; therefore, no cumulative impact would occur.

Conclusion

Alternative C would have a minor long-term adverse impact on park operations and maintenance because of change in operations associated with the new visitor center, new interpretive programs, park acquisition of U.S. Route 29 and VA Route 234, and controlled access into the park. No cumulative impact would occur.

UNAVOIDABLE ADVERSE IMPACTS

ALTERNATIVE A—CONTINUING CURRENT MANAGEMENT PRACTICES (NO-ACTION ALTERNATIVE)

Visitor safety and experience continues to be seriously compromised by heavy volumes of commuter and commercial truck traffic. The interpretation of the two Battles has improved substantially over the years, but visitor focus remains on First Manassas due to the location of the visitor center, the content of its interpretive programs, and the heavy volumes of non-park traffic that inhibits viewing many of the Second Manassas sites. In addition, the failure to rehabilitate major components of the historic landscape to their wartime appearance continues to prevent visitors from understanding the comprehensive story of the Battles.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS

The scene rehabilitation would have unavoidable, long-term, adverse impact on the net area of woodlands at the park, but is necessary to rehabilitate the battlefield

landscape. Controlled access into the park would have unavoidable adverse impacts on commuters and nearby businesses and residents that use the road to transport goods and services.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

The construction of a new visitor to the east of Stone Bridge would have an unavoidable adverse impact on vegetation. The new bridge and access road associated with the new visitor center would have to cross Bull Run, and would have unavoidable adverse impacts to water resources. Additional study would be conducted to further refine the alternatives and potential impacts. There would be a small decrease in the overall woodlands within the park due to historic landscape rehabilitation. Net loss of woodlands would result in negligible to minor adverse impacts on forest species. Controlled access into the park would have unavoidable adverse impacts on commuters and nearby businesses that use the road to transport goods and services.

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

ALTERNATIVE A—NO-ACTION ALTERNATIVE

Under the no-action alternative, there would be no short-term use of the environment that would encroach upon the maintenance and enhancement of long-term productivity.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Under alternative B, there would be a net loss of 245 acres of woodlands and a concomitant net gain of open fields due to historic landscape rehabilitation. The scene rehabilitation would greatly enhance the visitor understanding of the two battles. However, there would be a negligible to minor, long-term loss of biological productivity from the loss of forest.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Under the proposed action, there would be the loss of approximately 72 acres of woodlands and a concomitant net gain of open fields due to historic landscape rehabilitation. The scene rehabilitation would greatly enhance the visitor understanding of the two battles. However, there would be a negligible, long-term loss of biological productivity from the loss of forest. In addition, the construction of a new visitor center would involve land disturbance and impacts to vegetation which would reduce biological productivity but would enhance the visitor's understanding of the Civil War, adding long-term productivity to the battlefield resource.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

ALTERNATIVE A—NO-ACTION ALTERNATIVE

There would be no irreversible and irretrievable commitment of resources.

ALTERNATIVE B—THE TWO BATTLES OF MANASSAS (PREFERRED ALTERNATIVE)

Alternative B has certain proposed actions that would result in irreversible commitment of resources. The battlefield scene rehabilitation would have an irreversible commitment of resources to remove the forest and rehabilitate the scene. The removal of the U.S. Route 29 bridge over Bull Run would also be an irreversible commitment of resources.

ALTERNATIVE C—THE DEFINING MOMENTS OF THE BATTLES OF MANASSAS

Alternative C has certain proposed actions that would result in irreversible commitment of resources. The construction of a new visitor center east of Stone Bridge, with a new access road and bridge over Bull Run would be an irreversible commitment of resources. The battlefield scene rehabilitation would also have an irretrievable commitment of resources to remove the forest and rehabilitate the scene although it would be less than alternative B.

Consultation & Coordination



PUBLIC MEETINGS, SECTION 106 CONSULTATION, AND INTERAGENCY COORDINATION

PUBLIC MEETINGS

This *Draft General Management Plan/Environmental Impact Statement* was developed with the participation of governmental agencies, nongovernmental organizations, and members of the public at large. Formal public participation began in March of 1996, when the park superintendent sent a letter to more than 800 people and groups on the park's initial mailing list. This letter described the effort to develop a new general management plan for the park and invited all addressees to participate in the project.

The invitation announced the first round of public meetings, to be held at the visitor center on March 18 and 20, 1996, and also included a mail-back comment form. The comment form asked recipients to describe any issues and concerns they had about the park, as well as their ideas for the future of the battlefields. The letter was also posted on the park's World Wide Web site and electronic comments were encouraged. In addition, the meetings were announced in local newspapers, on local television, and in the *Federal Register*.

The first public meetings provided attendees with the opportunity to learn about the planning effort, ask questions, and voice their ideas about the park. The mail-back comment form was also distributed at the public meetings. More than 100 people attended the meetings and more than 250 comment forms and electronic responses were received.

Additional informal meetings were also held during this first round of public participation. The project was discussed with groups associated with the park, including the Bull Run Civil War Roundtable and the Battlefield Equestrian Society. The project team also met with groups that expressed interest in specific aspects of the plan, such as the Prince William Bicycle Association, the Friends of Manassas National Battlefield Park, and the Prince William Wildflower Society.

From the meetings and comment forms, the project team learned that respondents cared deeply about the battlefields and were concerned with almost every aspect of the park, including traffic, trails, adjacent development, historic buildings, visitor facilities, interpretation, the natural environment, partnerships, the historic scene, and recreational uses.

The responses, along with the results of the park's data gathering study, provided a range of major issues facing the future of the park. The project team next reviewed past congressional legislation that shaped the park and examined the important battlefield resources and stories. Collectively, this information helped the project team develop goals for the park's future and preliminary alternatives to achieve those goals.

To help communicate ongoing planning issues, and to encourage further public participation, a newsletter was sent to individuals and organizations on the park mailing list, as well as anyone else who expressed interest in the process. The first newsletter, sent in January 1997, re-stated the preliminary goals and alternatives, to make sure they addressed the ideas discussed during the first round of public participation.

On February 10 and 11, 1997, a second round of public meetings was held at the park visitor center. As with the first round of public meetings, the meetings were publicized in local papers and the newsletter and meeting announcement were posted on the park's World Wide Web page. An article was also included in the Civil War News to encourage participation by a broader segment of the Civil War community. At the meetings, participants were invited to give their reactions to the goals and help the planning team refine the preliminary alternatives and/or develop new alternatives. Ideas from these meetings and the responses were used to refine the preliminary alternatives and develop the draft plan.

Throughout the summer of 1997 as the draft general management plan was being prepared, the project team continued to meet with interested groups and study the impacts of implementing the alternatives. The National Park Service contracted with Virginia Natural Heritage to study those areas identified in the alternatives where wooded areas would be removed and the historic field patterns rehabilitated to ensure threatened and endangered species would not be impacted. The National Park Service also contracted with Robert Peccia and Associates, to supplement the traffic modeling provided by the Virginia Department of Transportation in the U.S. Route 29 Study to understand the impacts of relocating through traffic from the park.

In 2000, the National Park Service put the Manassas General Management Plan process on hold, in order to first concentrate on separate, but related, transportation concerns. Of specific interest was the Battlefield Bypass, which would re-route US Route 29 and VA Route 234 around the park, removing commuter traffic from these roads within park boundaries. The Environmental Impact Study for the bypass began in 2001, and a preferred alternative was selected in 2005.

Public meetings for the Manassas National Battlefield GMP resumed in 2002 with a public focus group meeting, designed specifically to address issues surrounding transportation and circulation in the park. This meeting occurred on December 5, 2002, with 18 individuals in attendance. A new newsletter was sent to the mailing list in the fall of 2003. A total of 60 written and electronic comments were received.

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 the National Register of Historic Places. To meet the requirements of 36 CFR 800, the National Park Service sent letters to the Virginia Department of Historic Resources (the state historic preservation office) and the Advisory Council on Historic Preservation, inviting their participation in the planning process. Both offices were sent copies of all project newsletters with a request for comments.

Table 5.1 lists the cultural resources present at Manassas National Battlefield Park, the treatment and use of each resource, and the presumed need for any future review by the SHPO and/or the Advisory Council on Historic Preservation.

INTERAGENCY COORDINATION

Coordination with federal, state, and local government agencies began concurrently with the public information campaign. Government agencies such as the Virginia Department of Historic Resources, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Virginia Department of Transportation, Virginia Department of Conservation and Recreation, and nearby jurisdictions received the park superintendent's initial letter in March of 1996.

These organizations were invited to attend all public meetings. Special briefings were also held with elected officials and staff from Fairfax and Prince William counties. Throughout the process (from 1996 through the present), government agencies were also invited to participate in a routine series of interagency coordination meetings. The attached letter to the Virginia Department of Historic Resources is one example of the project team's coordination efforts.

In addition, representatives from the park's General Management Plan/Environmental Impact Statement team participated in coordination meetings for the Bypass Study.

Table 5-1: GMP Actions Requiring Section 106 Compliance

Alternative A	
GMP Action	Compliance Requirements
Rehabilitate Brawner Farm House, while preserving the structure to accommodate internal visitation and interpretation.	Project underway.
Alternative B	
GMP Action	Compliance Requirements
Upgrade the Stuart's Hill facility to serve as the Second Manassas Visitor Contact Station and accommodate year-round visitation	Requires further SHPO and ACHP review.
Request the following boundary adjustments: • The 136-acre Davis Tract, • The 43-acre Stonewall Memory Garden Tract, • The 24.25 acre Conservation Trust parcel, and • The 6-acre Dunklin Monument tract	No SHPO or ACHP review required.
Rehabilitate the landscape to its wartime appearance: • Remove approximately 327 acres of existing forest and manage that land as grassland or open field. • Allow approximately 82 acres of existing grassland and open fields to regenerate to forest through natural succession.	Requires further SHPO and ACHP review.
Remove the existing Brawner Farm and Battery Heights parking areas along U.S. Route 29.	Requires further SHPO and ACHP review.
Develop the First Manassas Automobile/Bicycle tour (interpretive materials only—no new roadway needed).	No SHPO or ACHP review required. To be carried out after the completion of the Manassas National Battlefield Park Bypass.
Upgrade trails and interpretive media as needed on the First Manassas Hiking Trail.	Requires further SHPO and ACHP review.
Develop the Second Manassas Automobile/Bicycle tour (interpretive materials only—no new roadway needed).	No SHPO or ACHP review required. To be carried out after the completion of the Manassas National Battlefield Park Bypass.
Develop the Second Manassas Hiking trail by upgrading existing trails, creating new trails, and providing interpretive materials.	Requires further SHPO and ACHP review.
Upgrade the Lucinda Dogan House to accommodate year-round visitation Rehabilitate the structure's appearance by removing nonconforming structural elements and outbuildings.	Requires further SHPO and ACHP review.
Create a "ghosted" outline of the Robinson House ruins.	Requires further SHPO and ACHP review.

Table 5-1: GMP Actions Requiring Section 106 Compliance

Alternative B (Continued)	
GMP Action	Compliance Requirements
Transfer the portions of U.S. Route 29 and VA Route 234 inside the park to NPS jurisdiction and close these roads to non-park traffic: - Remove the existing U.S. Route 29 Bridge over Bull Run - Install access control facilities at the park's remaining entrances along U.S. Route 29 and VA Route 234. Special provisions would be made for in-holders and their guests and service providers, and for emergency vehicles - Remove signalization, turn lanes, and excess pavement from the intersection of U.S. Route 29 and VA Route 234 - Reduce speed limits to 25 mph - Designate and mark bicycle lanes on primary roads throughout the park	Requires further SHPO and ACHP review. To be carried out after the completion of the Manassas National Battlefield Park Bypass.
Design and develop a new recreation area off of Groveton Road.	Requires further SHPO and ACHP review.
Develop a new equestrian trail near Stuart's Hill.	Requires further SHPO and ACHP review.
Alternative C	
GMP Action	Compliance Requirements
Construct a new visitor center, parking area, and access roadways to the east of Stone Bridge and Bull Run.	Requires further SHPO and ACHP review.
Remove the existing visitor center Henry Hill	Requires further SHPO and ACHP review.
Upgrade the interpretive displays at the Stuart's Hill facility (a less extensive upgrade than in Alternative B). Examine options to re-design the entry road and parking facilities at Stuart's Hill to minimize the visual impact of the high-voltage transmission lines in that quadrant of the park.	Requires further SHPO and ACHP review.
Request the following boundary adjustments: - The 136-acre Davis Tract - The 43-acre Stonewall Memory Garden Tract - The 24.25 acre Conservation Trust parcel - The 6-acre Dunklin Monument tract	No SHPO or ACHP review required.
Upgrade key interpretive sites throughout the park for moderate to high visitor use. Sites include: Brawner Farm, Chinn Ridge, Deep Cut/Unfinished Railroad, Groveton, Henry Hill, Matthews Hill, Portici, Sudley, Stone Bridge, and Stone House. - Develop extensive interpretive materials at each site. - Upgrade parking facilities and loop trails at each site.	Requires further SHPO and ACHP review.

Table 5-1: GMP Actions Requiring Section 106 Compliance	
Alternative C (Continued)	
GMP Action	Compliance Requirements
Using existing trails, develop two separate five-mile hiking trails for the First and Second Battles of Manassas.	No SHPO or ACHP review required.
Restore important wartime view corridors by removing approximately 72 acres of existing forest and managing that land as grassland or open field.	Requires further SHPO and ACHP review.
Remove the modern residence and outbuildings from the Groveton area.	Requires further SHPO and ACHP review.
Upgrade the Lucinda Dogan House to accommodate year-round visitation Rehabilitate the structure's appearance by removing nonconforming structural elements and outbuildings.	Requires further SHPO and ACHP review.
Remove the existing Brawner Farm and Battery Heights parking areas along U.S. Route 29	Requires further SHPO and ACHP review.
Transfer the portions of U.S. Route 29 and VA Route 234 to NPS jurisdiction and close these roads to non-park traffic: - Construct a new bridge and approach roads to the south of the existing bridge's location. - Remove the existing U.S. Route 29 Bridge over Bull Run - Install access control facilities at the park's remaining entrances along U.S. Route 29 and VA Route 234. Special provisions would be made for in-holders and their guests and service providers, and for emergency vehicles. - Remove signalization, turn lanes, and excess pavement from the intersection of U.S. Route 29 and VA Route 234. - Reduce speed limits to 25 mph. - Designate and mark bicycle lanes on primary roads throughout the park.	Requires further SHPO and ACHP review. To be carried out after the completion of the Manassas National Battlefield Park Bypass.
Design and develop a new recreation area off of Groveton Road.	Requires further SHPO and ACHP review.
Develop a new equestrian trail near Stuart's Hill.	Requires further SHPO and ACHP review.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Manassas National Battlefield Park
12521 Lee Highway
Manassas, Virginia 20109-2005

August 11, 2004

Ms. Kathleen S. Kilpatrick, Director
Department of Historic Resources
Commonwealth of Virginia
2801 Kensington Avenue
Richmond, Virginia 23221-2470

Subject: General Management Plan for Manassas National Battlefield Park, Virginia

Dear Ms. Kilpatrick:

The National Park Service continues to work toward the completion of a draft General Management Plan/Environmental Impact Statement (GMP/EIS) for Manassas National Battlefield Park. A general management plan, as you know, determines the best course of management for each park, based on the park's purpose and significance, the interrelationships that exist among the park's resources and values, the range of public interests, knowledge of best practices, and other factors. This approach helps ensure that the decisions made through general management planning are widely supported and sustainable over time. The draft GMP/EIS being developed for Manassas National Battlefield Park will guide decision making at the park for the next 15-20 years.

To date, the park's draft GMP/EIS contains three alternatives, including a no-action alternative. These are Alternative A, *Continuing Current Management Practices*, which is the no-action alternative; Alternative B, *The Two Battles of Manassas – A Comprehensive Understanding of Each Battle*, which is the alternative preferred by the National Park Service; and Alternative C, *The Defining Moments of the Battles – An Understanding of the Principal Events*. Later this year, a copy of the document will be submitted to you for your review and comment, in accordance with stipulation VI., E of the 1995 *Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers*.

Your comments and concerns are important in determining the future of Manassas National Battlefield Park. Because this general management plan has been under development for several years, I would be happy to arrange a time for you and members of your staff to tour the park and become reacquainted with the many issues affecting the park. If you would like to arrange such a meeting, or if you have any questions or concerns, please contact me at the above address, e-mail me at Robert_Sutton@nps.gov, or telephone me at 703-754-1861.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert K. Sutton". The signature is written in a cursive, slightly slanted style.

Robert K. Sutton
Superintendent

LIST OF AGENCIES AND ORGANIZATIONS TO WHICH THIS DOCUMENT WAS SENT

Federal Agencies

Advisory Council on Historic Preservation
Federal Highway Administration
Federal Transit Administration
U.S. Army Corps of Engineers, Norfolk District
U.S. Department of Agriculture
 Natural Resources Conservation Service
 U.S. Forest Service
U.S. Department of Commerce
 National Oceanic & Atmospheric Administration, National Marine Fisheries Service, Northeast Region
U.S. Department of the Interior
 Fish and Wildlife Service, Virginia Field Office
 National Park Service
 Office of Environmental Policy and Compliance
 Office of Environmental Project Review
U.S. Environmental Protection Agency

U.S. Senate

Honorable Mr. George Allen
Honorable Mr. John Warner

U.S. House of Representatives

Honorable Mr. Tom Davis
Honorable Mr. Frank Wolf

State Officials

Virginia Governor Mark Warner
State Senator Charles Colgan
Virginia State Delegate Robert Marshall

State Agencies

Virginia Department of Aviation
Virginia Department of Environmental Quality
Virginia Department of Forestry
Virginia Department of Game and Inland Fisheries
Virginia Department of Historic Resources (State Historic Preservation Office)

Virginia Department of Transportation
Virginia Marine Resources Commission
Virginia Outdoor Foundation

Regional Agencies and Organizations

National Capital Planning Commission
Northern Virginia Regional Commission
Northern Virginia Regional Park Authority
Northern Virginia Soil and Water Conservation District
Northern Virginia Transportation Authority

County and Local Agencies and Officials

Fauquier County Administrator
Fairfax County
 Board of Supervisors
 Department of Planning and Zoning
 Department of Transportation
Loudoun County
 Administrator
 Board of Supervisors
 Director of Transportation
Prince William County
 Board of Supervisors
 Department of Public Works
 Soil and Water Conservation District
 Transportation Division
Manassas, Virginia, local government
Manassas Park, Virginia, local government
Town of Haymarket, local government

Organizations and Businesses

Bull Run Civil War Roundtable
Civil War Preservation Trust
Coalition for Smarter Growth
Gate Post Estates Home Owners Association
National Trust for Historic Preservation
Piedmont Environmental Council
Sudley Springs-Catharpin Civic Association

Appendices, Bibliography, Preparers, & Index



APPENDIX A: DESCRIPTION OF RESOURCES

Brawner Farm

Near the western edge of the park, the Brawner Farm area witnessed the initial fighting in the Second Battle of Manassas. The most prominent landmark on the wartime landscape was the residence of tenant farmer John Brawner and his family. The present structure, which was likely built or added to after the Civil War, now occupies part of the site overlooking the Warrenton Turnpike (present day U.S. Route 29). The two-story structure is currently unoccupied and in poor condition. None of the farmstead's ancillary structures remain, but archeological traces dot the grounds.

Across much of the farm, evidence of historic field patterns remains, with cedar rows denoting the location of fence lines. A mixed pine and hardwood forest covers most of the once-cleared fields in the eastern portion of the farm. The historic woodlot, known variously as Brawner Woods or Gibbon's Woods, nevertheless is a discernible hardwood stand in the southeastern corner of the farm adjacent to U.S. Route 29. The location of the wartime orchard, however, is unknown, although remnants of two later orchards exist northeast and east of the house. An unimproved driveway currently provides access to the farmstead from U.S. Route 29, while the historic farm trace runs parallel to and east of the modern access road.

In a valley west of the farmstead lie the headwaters of Youngs Branch. Beyond the stream the ground rises to a clear ridge, where Confederate artillery and infantry advanced during the August 28 battle in a successful effort to force the Federals to withdraw. Northeast of the farmstead, rising ground forms a spur of Stony Ridge that served as the position of S. D. Lee's Confederate artillery on August 30. Five Civil War-era cannon, spread across the ridge crest, mark the artillery battalion's position and serve as an interpretive aid. To the east, the postwar forest growth has reduced the clear field of fire to approximately 100 yards, entirely blocking key battlefield views toward the Deep Cut and Battery Heights. To the west, meanwhile, the open fields preserve the historic vista to the Bull Run Mountains, with Hopewell Gap clearly visible and Thoroughfare Gap somewhat obscured but still discernible. This view to the

gaps provides an opportunity to interpret the Confederates' movement to the battlefield.

Bull Run

Bull Run, the principal tributary of the Occoquan River, flows along the eastern edge of the battlefield. Its steep banks and bluffs formed a natural defensive barrier for Confederate forces early in the war. Physical evidence of the Confederate defensive line survives in the form of scattered earthworks along the bluffs overlooking Bull Run. These earthworks include a shallow lunette used as an artillery position by Heaton's section of Rodger's Loudoun Artillery and rifle pits near Lewis Ford occupied by the 19th Virginia and Schaeffer's Battalion. The rugged terrain of the valley channeled troop movements to established crossing points such as Poplar Ford, Lewis Ford, and Balls Ford. Traces of the fords remain and are accessible by trail. Other stream crossings in the Sudley and Stone Bridge areas are described below.

Chinn Ridge

Southwest of the intersection of the Warrenton Turnpike and the Sudley-Manassas Road, Chinn Ridge was the scene of major fighting in both battles. In each battle, Confederate counterattacks made control of this ridge a key component of Southern success. The most important wartime feature on the ridge was the plantation residence of Benjamin T. Chinn. Known as Hazel Plain, the frame house stood two-and-a-half stories tall on a sandstone foundation at the crest of the ridge, where it overlooked the length of the ridge and the valley of Chinn Branch. Despite its exposed position on the battlefield, the house survived the war, and eventually succumbed to the ravages of time and the elements in the 20th century. In 1950 the NPS razed the house, and only the foundation and chimney bases remain intact.

In addition to the house foundation, archeological traces of the numerous ancillary structures survive on the ridge and its southeastern slope. A 1983 archeological survey identified more than a dozen features associated with the plantation, mostly in the yard and fields east-southeast of the house site. Two notable features are down slope in the valley of Chinn Branch. About 200 yards east of the house site,

the Hooe Family Cemetery is the burial ground of the family who built and owned Hazel Plain from 1809 to 1836. The headstones fell victim to vandalism in the 1950s and 60s, and none remain within the stone cemetery walls today. Meanwhile to the northeast across Chinn Branch, Chinn Spring is still evident, albeit somewhat overgrown.

Landscape patterns remain largely intact in the vicinity of the Chinn House site, with the grounds divided into unequal quarters and bordered by cedar rows marking historic fence lines. The southern grounds in particular display a high level of organization, with terraced lawns or gardens flanking the house on the west and east. Just north of the house site, the historic farm lane that bisects the grounds is now an asphalted park road giving access to VA Route 234 at the park's southern boundary. A nonhistoric park road intersects with the old road east of the house site and extends first northward along Chinn Branch and then eastward to a junction with VA Route 234. Traces of other historic roads remain in the woods west and southwest of the house site. Of particular note are the well-worn traces of Comptons Lane, which runs parallel to a modern park trail.

The only commemorative element on the Chinn Ridge landscape proper is a granite boulder bearing a bronze plaque honoring Col. Fletcher Webster, who fell leading the 12th Massachusetts at Second Manassas. The Webster Monument is about 400 yards north-northeast of the Chinn House site.

The crest of Chinn Ridge proper remains mostly clear and reflects its historic appearance, except for a postwar grove around the Webster Monument. The slopes of the ridge, however, bear considerable postwar forest growth that hinders interpretive efforts. To the west, an extensive forest covers the undulating slope of the ridge, obscuring the position of Kerns' Union battery and blocking the view of the New York monuments to the west. Recent forest growth in the Chinn Branch valley entirely obstructs the view of Henry Hill, while scattered woods on the northern extremity of the ridge conceals the historic Stone House intersection.

Cundiff

In the southwestern part of the park, the Cundiff plantation, Meadowville, was the scene of much

activity during the Second Battle of Manassas. Its position on the Warrenton Turnpike opposite the Brawner Farm placed the property in the midst of the action on August 28, and Union forces occupied the area, using the house as a temporary hospital. Union and Confederate forces skirmished in the area the following day, and on August 30, Confederate forces positioned here launched a massive counterattack.

Today, only foundations mark the site of the Cundiff dwelling at Meadowville. The original house, part of which dated to the late 18th century, did not survive the war, and a later house built on the same site in the 1940s was razed prior to NPS acquisition. The archeological features of the domestic complex also include the remains of at least one outbuilding east of the house site. A driveway provides access to the house site and roughly follows the route of the historic Meadowville Lane. South of the house site, however, no visible trace remains of the wartime farm lane.

The central portion of the plantation landscape lay mostly in open fields, with woodlots toward the periphery. However, modern forest growth covers much of the area today, blocking historic views from Stuart's Hill to the west, and covering much of the ground where Confederate forces deployed during Second Manassas. Evidence of historic field patterns exists in the form of remnant fence lines. Although a few of the extant fence lines may date to the war period, most are from the 1871 partition of Meadowville.

Dogan Ridge

Spreading northwest from the intersection of U.S. Route 29 and VA Route 234, the Dogan Ridge area was the scene of important action during both battles. During First Manassas, Union troops advancing onto the ridge threatened the Confederate line on neighboring Matthews Hill, and Northern artillery shelled Southern positions on Henry Hill from the cleared crest of the main ridgeline. At Second Manassas, the property became a staging area for Union attacks against the Confederates' Unfinished Railroad position, while the high ground again served as a key artillery position.

Beginning at the Sudley-Manassas Road opposite Matthews Hill, Dogan Ridge extends southwestward as an extension of the Matthews ridgeline. The most prominent feature on the

wartime landscape was the farmstead of John Dogan, on the southwestern portion of the ridge. Known as Rosefield, the Dogan House stood on the crest of the ridge overlooking the Warrenton Turnpike about 80 yards to the south. Built in the 1790s, the original house was one of several Carter family residences in the area until Dogan acquired the property in the 1840s. The antebellum dwelling burned during the Civil War; a new house, constructed in the 1880s, now stands on the approximate site and serves as a marker for the wartime structure.

No visible evidence exists of the farmstead's outbuildings, which lay west of the house, or of the wartime orchard to the southwest. The original farm lane does survive in part, extending as a driveway from the postwar house southeast to the Warrenton Turnpike, but the lane running northward to VA Route 234 is no longer extant. Both adjacent highways generally follow their wartime alignments, except for a section of VA Route 234 north of the main ridge. North of the ridge, the modern highway follows a new alignment immediately to the east of the well-defined bed of the original road.

Throughout much of the property, continued agricultural use has helped preserve historic vegetation patterns, with open fields predominating on the main Dogan Ridge and parallel ridgelines to the northwest. However, dense rows of cedar and scrub growth have sprung up along historic fence lines, effectively shutting off views to Henry Hill, Matthews Hill, and the Groveton area. In the northern and western areas of the Dogan farm, wood lines appear little changed from the war period. As in the 1860s, the woodlots on the periphery of the farm merge with the larger Groveton Woods that extended north and northeast along the Groveton-Sudley Road (now Featherbed Lane) and the Unfinished Railroad.

Groveton

The tiny village of Groveton sat at the junction of the Warrenton Turnpike (now U.S. Route 29) with the Groveton-Sudley Road (now Featherbed Lane). Groveton witnessed key events during each day of fighting at Second Manassas and, in early accounts of the actions, even lent its name to the engagement. Historic maps and documentary evidence place the village proper on the northwest and southwest corners of the intersection, with a tavern, wheelwright

shop, and blacksmith shop among the cluster of structures. Few traces of the crossroads community remain today, but recent structures evoke the historic setting.

The most important remnant of the Groveton area is the Lucinda Dogan House, at the northwest corner of the intersection. Part of the adjacent Dogan family plantation known as Peach Grove, the one-and-a-half story log building originally served as an overseer's house. In 1860, the structure became the Dogans' primary residence after the main plantation house burned. Veterans of Second Manassas later became welcome guests in the Dogan home, and the family participated in dedication ceremonies for the nearby New York monuments in 1906. The Prince William County Chamber of Commerce purchased the house and its immediate grounds in 1947 and donated the property to the park in 1949. NPS completed rehabilitation of the building in 1961. The house is one of only three wartime buildings within the park boundaries.

Just west of the Lucinda Dogan House and outside the park boundary, a two-story frame structure may contain the historic Dogan tavern, which stood on the site in the 1860s. No other vestige of the historic Groveton village survives, although archeological remains may exist. The tavern structure and the rest of the northwest corner of the Groveton intersection fall within the Stonewall Memory Gardens, a privately owned 84-acre landscaped cemetery.

In addition, the cemetery property contains two other historic sites related to Groveton. The Peach Grove domestic complex stood on a knoll about 350 yards northwest of the village intersection. Although nothing remains of the house, and a modern cemetery office building now occupies the approximate site, the family burial ground survives nearby and is marked by a bronze tablet on a brick base. Meanwhile, the location of the wartime Groveton School House is not certain, but the structure may have stood about 400 yards north of the intersection, just within the northeast boundary of the cemetery property. Most of the remainder of the Peach Grove property falls within NPS boundaries and includes the Battery Heights area. Located on a ridge west of the modern cemetery, Battery Heights served as an important artillery position during Second Manassas. It was occupied by

Federals on August 28 and by Confederates on August 30.

No trace of the historic village exists south of the Warrenton Turnpike, although several structures stood in the southwest corner of the intersection. The area is now the site of the Oswald Robinson House, a 1960s stone rambler owned by the National Park Service. To the south and facing the wartime Lewis Lane (now Groveton Road) is a two-story stone dwelling dating to 1918. Originally built as a school, the structure later underwent remodeling as a residence and now serves as housing for park staff.

Several notable commemorative features lie east of the Groveton crossroads. About 275 yards east of the Lucinda Dogan House, the Groveton Confederate Cemetery occupies a landscaped knoll overlooking Dogan Branch. Established in the late 1860s, the cemetery contains the remains of at least 266 Confederate soldiers who fell in the Manassas battles. Of these burials, only two are fully identified by headstones. The cemetery also contains a stone obelisk erected in 1904 to honor the fallen Confederates. Thirteen stone markers encircle the monument, each bearing the name of a Confederate or border state. Other early 20th century improvements include a wrought iron perimeter fence and gate, dating to 1901, and a sidewalk constructed the same year as the obelisk.

Across the Warrenton Turnpike on an extension of the cemetery ridge is the 14th Brooklyn Monument. Erected by the State of New York in 1906, the granite monument with bronze seal and plaque honors the 14th Brooklyn at the regiment's position at Second Manassas. This monument is surrounded by an iron enclosure. On the crest of a nearby ridge are granite monuments bearing bronze seals and plaques in honor of the 5th and 10th New York Infantry. Both regiments were overwhelmed in the Confederates' August 30 assault. Iron enclosures also surround these New York Monuments, and an iron gate stands at the entrance to the access road off of the Warrenton Turnpike. Due to the widening of the access road, known as New York Avenue, the iron gate is no longer functional. Across the highway, a later monument stands at the western end of the cemetery parking lot. Consisting of a bronze plaque on a sandstone base, the 1928 Groveton Monument commemorates the Second Manassas or

Groveton battle. Two other monuments on the Dogans' Peach Grove property are described in the section on the Unfinished Railroad.

The 1860s road network appears largely intact, with U.S. Route 29, Featherbed Lane, and Groveton Road mostly corresponding to their wartime alignments. The lone exception is a short stretch of U.S. Route 29 east of the Groveton Confederate Cemetery, where a narrow trace and stone abutments mark the old crossing of Dogan's Branch immediately upstream from the modern highway. The roads, while generally on their old beds, are not at the 1860s grade, as the state cut into the historic grade to minimize the undulations of the road surface. Despite the improvements, the modern roads have the appearance of rural byways and lend much to the historic scene at Groveton.

The landscape of the Groveton area still possesses much of its open character, with open fields predominating east of the crossroads and also at Battery Heights to the west of the Stonewall Memory Gardens. Within the modern cemetery, however, the battlefield landscape has undergone noticeable change, including the addition of modern structures, a road network, and a pond. More importantly, modern forest growth covers the northern portions of the cemetery tract that the Dogans maintained as pastures in the 1860s. Although outside NPS boundaries, this forest encroachment markedly hinders interpretation of Second Manassas, entirely obstructing views of the Deep Cut attack zone from Groveton and Battery Heights and contributing to the forest obstacles blocking the historic vista from the Brawner Farm. Much of this area was clear as recently as the 1940s.

Henry Hill

Situated southeast of the intersection of the Warrenton Turnpike and the Sudley-Manassas Road, Henry Hill served as the stage for some of the most dramatic events of both battles of Manassas. Confederate forces turned the tide of battle here at First Manassas, and at Second Manassas, Federal defenders made a tenacious stand that allowed the Union army to withdraw safely from the field. The area of Henry Hill comprises portions of the historic Henry and Robinson farms, and although neither wartime dwelling survives, the remains of these farmsteads serve as important battlefield

landmarks today. The hill also is presently the site of the park's visitor center.

The Henry farmstead, known also as Spring Hill, saw the heaviest fighting at First Manassas and suffered accordingly. Artillery fire during the battle left the owner, Judith Carter Henry, dead and her house severely battered. Confederate troops scavenging for wood later dismantled the structure, leaving only part of the chimney standing by the time of Second Manassas. Toward the close of the second battle, Union troops formed a defensive line on the western slopes of the hill and within the roadbed of the Sudley-Manassas Road to the west of the house site. Virginia Route 234 here generally follows its wartime alignment within a steep-banked roadbed. An abandoned stretch of the original roadbed extends southward from the wood line south of the visitor center driveway to the park boundary.

A two-story frame house, built by the Henry family in 1870 and later enlarged, now occupies the site of the original one-and-a-half story residence. A postwar frame shed of undetermined age stands immediately to the north of the house. The Henry House has been rehabilitated, and the shed has been converted into public restrooms. To the west of the house, an iron enclosure surrounds the family burial plot, which includes the marked graves of Mrs. Henry and two of her adult children who died after the war. The gravestones, although weathered, remain in fair and legible condition.

A gated and partly graveled driveway, presumably on the bed of the original farm lane, provides access to the farmstead from the Sudley-Manassas Road. Traces of the farm lane also appear in the fields northeast and east of the house, extending into the woods on the southeastern part of the farm. Within the woods the deeply worn farm trace survives as part of a hiking trail. This trace figured prominently in First Manassas as the route that Jackson's Virginians—and many Confederate reinforcements—followed into battle on Henry Hill. The trace terminates at its intersection with an historic farm road now known as Rock Road. This latter road, also part of the Confederate march route, generally follows a north-south alignment, running from U.S. Route 29 to Vandon Lane (postwar) and skirting past the eastern slopes of Henry Hill. Surfaced with gravel in the

20th century, Rock Road is currently a component of the park's hiking trail system.

Northeast of the Henry farm lay the remains of the Robinson farmstead, the scene of important fighting during the first battle and a victim of looting during the second battle. The original one-and-a-half story frame house, the residence of freedman James Robinson, survived the war intact. The Robinson family, however, constructed additions onto their wartime home in the 1870s and 80s and later razed the original part of the house to allow the construction of a new addition in 1926. The completed two-story house stood until the structure was destroyed by arson in 1993. NPS dismantled the ruined building and a modern shed the following year. The red sandstone foundation of the 1871/1926 house comprises the only visible remains. The original farm lane still serves as the driveway onto the property, providing access from U.S. Route 29 north of the site. Both the fence-lined drive and the worn roadbed of the turnpike served as Confederate defensive positions during First Manassas.

After the battles the Henry Hill area became the focus for commemorative activities, as veterans and their descendants erected memorials and markers on the battlefield. The earliest monument was an 1861 shaft honoring Confederate Col. Francis Bartow, who was killed at First Manassas. Remains of this monument (perhaps the earliest Civil War monument anywhere) and an intact 1936 granite monument with a bronze plaque also in his honor are in the hollow southeast of the Henry House, presumably at the spot where he fell. Just east of the Henry House stands an 1865 brownstone obelisk erected by Union soldiers to honor their fallen comrades at First Manassas. Veterans of the 7th Georgia Infantry later marked their regiment's positions in the 1861 battle with numerous stones, two of which survive on Henry Hill. One marker is south of the Henry House, and the other is positioned in a clearing 600 yards to the east. Members of the United Daughters of the Confederacy erected a granite monument in 1939 to mark the area of Brig. Gen. Barnard Bee's mortal wounding in the first battle, and the Commonwealth of Virginia commissioned an equestrian statue of Brig. Gen. (later Lt. Gen.) Thomas J. "Stonewall" Jackson to commemorate his stand on Henry Hill in 1861. The 1940 Jackson statue and the nearby Bee monument are

on the crest of the hill roughly 200 yards southeast of the Henry House. All of the surviving, intact monuments are in fair to good condition.

The visitor center, erected in 1942 and later enlarged, stands on the hill about 200 yards south of the Henry House and serves as the center of interpretive activity in the park. Despite the presence of the modern visitor center, the landscape retains much of its historic character, with the configuration of field and forest generally corresponding to the hill's wartime appearance. The placement of artillery pieces along Jackson's line and at Ricketts and Griffin's battery positions enhances the hill's evocative power. The open plateau where the heaviest fighting occurred in the first battle affords commanding vistas of much of the 1861 battlefield, with Van Pelt Hill to the northeast and Matthews Hill to the north in clear view and the Bull Run Mountains (with Hopewell Gap) visible in the distance to the north-northwest. Modern forest growth to the west and northwest, however, now largely obscures views of neighboring Chinn Ridge and Dogan Ridge. These important battlefield areas were visible from Henry Hill as recently as the 1950s.

Lewis

Southwest of Groveton, the Lewis plantation, Brownsville, saw significant action during the Second Battle of Manassas. Caught between the main lines of the contending armies, the property witnessed considerable skirmishing on August 29-30. Union artillery unlimbered on the high ground near the Lewis House on August 29, and during much of the battle Union skirmishers maintained positions along Lewis Lane (now Groveton Road). On the 30th, Confederate forces under Maj. Gen. James Longstreet swept over the plantation in a massive assault on Union positions to the east.

The ruins of the Lewis family's domestic complex form the most important historic feature left on the landscape. Despite the military activity, the Lewis House—known as Brownsville or Folly Castle—survived the Civil War but was destroyed by fire in 1900. Later dwellings erected in the early 1900s and in 1940 used the foundations and building materials of the earlier house.

The foundations of the 1940 house and its predecessors occupy a knoll south of Youngs

Branch and west of the junction of Lewis Lane and modern-day Pageland Lane. Archeological evidence of other structures remains in the yard to the north of the house site, while a cemetery and spring lie to the northeast. South of the house site, the extant driveway generally follows the path of the original farm lane sometimes referred to as Lewis Lane.

The 1940 dwelling survived until its demolition as part of the William Center project in 1988. Before being aborted in 1988, the William Center project erased many important landscape features, impacting approximately 100 acres. The William Center development obliterated much of Lewis Lane, as well as large portions of the tract north of Youngs Branch. Most notable among the alterations was the partial destruction of the central ridge that helped conceal Confederate positions in the western part of the tract. The William Center project re-configured the drainage network, added roads, altered surrounding hydrology and filled in wetland areas.

Between June and November 2003, a partnership between the park and the Smithsonian Institution rehabilitated the area disturbed by the William Center project. This partnership was aided by the presence of unusually detailed topographic and hydrologic maps of the area—produced only a decade after the battles. With this information in hand, the Lewis area was re-graded to its 1862 contours. Approximately 45 acres of wetlands were restored and upland areas were planted in native warm season grasses, creating a habitat type that is rapidly dwindling in Virginia. The area now bears much resemblance to its wartime appearance—the re-grading and re-positioning of this section of the park is now considered to be within one meter of the contours present during the Second Battle of Manassas.

Matthews Hill

Located one mile north of Henry Hill on the Sudley-Manassas Road, the Matthews Hill area was the stage of important action in both battles, particularly First Manassas. On Matthews hill the Union turning column first encountered Confederate resistance in the first battle, while in both battles Confederate troops pursued retreating Federals through the area.

The partially cleared landscape recalls the site's wartime appearance, with sweeping vistas to the

west toward Dogan Ridge and to the south toward the Henry Hill engagement area. A line of cannon on the crest indicates a Union battery position during First Manassas and aids in telling the battle story. South along the vista a draw separates the main hill from Buck Hill, which forms the lower shoulder of the ridge. The latter hill served as a Confederate artillery position in First Manassas and as the site of Major General John Pope's headquarters during Second Manassas. The cleared summit of Buck Hill affords a panoramic view of much of the battlefield, encompassing Henry Hill, Matthews Hill, Van Pelt Hill, and Dogan Ridge, as well as portions of Chinn Ridge now draped in modern forest.

East of the Matthews Hill vista, 20th century forest growth shrouds the landscape, covering fully one-half of the engagement area on the crest and the site of the Matthews' farmstead. A key landmark on the wartime landscape, the one-and-a-half story Martin Matthew House survived the war but fell into ruin during the early 1900s. Only foundations remain from the house, while depressions and scattered traces mark the location of outbuildings. The entire site now lies in a thick pine woods. A horse trail skirts the area, posing a potential impact to the archeological features of the site.

Near the Matthews site, the stone Stovall Marker constitutes the only commemorative feature in the area. Erected in the late 19th century, the marble marker originally indicated the site where Georgia soldier George T. Stovall fell during the first battle. Only partially intact, the marker has since been moved and only approximates the site today.

Pittsylvania

The Carter plantation, Pittsylvania, occupies the northeastern corner of the park, and was the scene of important troop movements during both battles. Confederate forces briefly took up positions here in marching from the Stone Bridge to Matthews Hill during First Manassas, and Union troops later maneuvered and retreated over the area. At the close of Second Manassas, Union forces withdrew through the property again and left destruction in their wake.

The most prominent wartime element of the landscape is the Carter family's domestic complex. Built in the 1760s, the family's residence

at Pittsylvania formed the nucleus of their once-extensive holdings in the area. The plantation, however, fell into decline before the war, and Union troops burned the house following Second Manassas, leaving only the ruined foundation to mark the site. Around the house ruins, remnants of other structures litter the area, including the foundation of a postwar house known as Pittsylvania II. Built in the late 19th century, the later house occupied the yard south of the original house site until its demolition in 1970.

Beyond a formal lawn area, still evident to the south of the house site, sits the Carter family cemetery. Partially surrounded by a late 19th century dry-laid stone wall, the cemetery contains an unknown number of graves, some of which are marked by fieldstones. Another burial ground, for the Carter slaves, lay unmarked a short distance to the northwest, where shallow depressions indicate grave sites. South of Pittsylvania, the Maggie Lewis House occupied low ground near Youngs Branch, but no visible trace exists of the wartime dwelling of this African American woman.

The Pittsylvania area today bears little resemblance to its historic appearance, as successional forests have reclaimed much of the clear ground, including the site of the Carter house. The modern forest blocks significant views to Matthews Hill to the west and to Poplar Ford on Bull Run to the northeast. Other alterations include postwar farmsteads in the cleared areas northeast and southeast of the Carter house site. Nevertheless, some historic field patterns and portions of the farm road network remain evident. A postwar farm lane extends northward from U.S. Route 29 and, northeast of the house site, approximates the route of the road to Poplar Ford. Elsewhere, park trails partly follow routes analogous to period farm lanes linking Pittsylvania to Van Pelt Hill and Farm Ford to the east and to VA Route 234 to the west.

Portici

Occupying the southeastern corner of the park, Portici was the wartime plantation of the Francis W. Lewis family and the setting for important activity in both battles. Here, Confederate Gen. Joseph E. Johnston set up his battlefield command post at the height of the first battle, while at the close of the second battle, Union and Confederate cavalry clashed on the property in a

brief but violent exchange. The most notable feature on wartime landscape was the Lewis residence, Portici, which stood on a ridge overlooking the Old Warrenton, Alexandria, and Washington Road (now Balls Ford Road) and the valley of Bull Run. A full English cellar and a pair of massive brick chimneys were among the distinctive features of the 1820 plantation manor. The house survived the First Battle of Manassas, when it served as Johnston's headquarters and as a field hospital, but was destroyed by fire sometime following the second battle (the date of its destruction is uncertain). An archeological investigation of the property during the late 1980s uncovered the ruins of the domestic complex, including the debris-filled remains of the cellar, but only scattered bricks and a lone wayside mark the site of Portici today.

Scattered across the property are the remains of other dwelling sites related to the extended Lewis family, none of which were standing during the Civil War. Among the notable archeological features are the remains of Pohoke, which had been the seat of the plantation prior to the construction of Portici. The earlier house stood on a ridge north of the site of Portici, but no visible trace survives above ground. Several post-Civil War house sites dot the landscape, including Portici II and Portici III, both family dwellings that successively occupied the same site on a low ridge southeast of Portici. Portici III, also known as the F. Lewis/Wheeler House, stood on that site until the NPS removed the dilapidated structure to restore the setting of the 1862 cavalry engagement.

Other Lewis family sites include the Ball Family Cemetery, which lies on a hill near the site of Pohoke and contains the remains of the Lewis' forebears. Five pairs of head- and footstones and several fieldstone markers designate the known burial sites. A stone wall, reconstructed in the 1930s, serves to protect the remaining grave markers, but the cemetery may extend beyond the walled area.

Among the notable military features on the property are the remnants of camp huts and structures built and occupied by Confederate troops in the winter of 1861-62. Federal soldiers briefly occupied the camp after the Confederates abandoned the site in March 1862. On a wooded hill west of Portici, the Confederate winter campsite straddles the park boundary and is the

only known wartime campsite within the park. In recent years the site has suffered from relic hunting activity as well as the effects of the development of the adjacent Battlefield Business Park.

The gently rolling landscape lies mostly in open fields, reflecting its two centuries of agricultural use. The high ground at the Portici house site still offers expansive views of the countryside to the south, now cluttered with suburban sprawl. Nevertheless, the open vista at Portici provides the only opportunity to interpret the Confederates' movement from the Manassas Junction area during First Manassas. To the east, however, a thick belt of woods along Bull Run blocks the historic view of the Federals' approach on the Warrenton Turnpike. These woods also screen from sight a large quarry operation. Along the western boundary of the property, a thin body of woods covers the site of the Confederate winter camp and helps to conceal part of the neighboring business park.

From VA Route 234, the modern Battleview Parkway extends through the business park to Vandro Lane (also postwar) on the park's southern boundary and provides vehicular access to the Portici area. Just south of the park boundary, Interstate 66 cuts a wide swath across the historic landscape, partially severing the plantation's historic connection to the Old Warrenton, Alexandria and Washington Road (modern-day Balls Ford Road) and slicing through part of the area of the 1862 cavalry engagement. An abandoned stretch of the historic road survives in the southeastern portion of the property and extends to Balls Ford on Bull Run.

In the western portion of the tract, an historic farm road, now known as Rock Road, continues in use as a fire road and park trail. During First Manassas, Confederates advanced to the Henry Hill area along this route, and Confederate President Jefferson Davis rode forward to Holkums Branch and encountered Stonewall Jackson after the fighting.

Stone Bridge

Marking the eastern entry to the park, the Stone Bridge area was the site of the opening shots of First Manassas and the primary route of retreat for Federals at Second Manassas. Originally constructed as part of the Warrenton Turnpike in

the 1820s, the Stone Bridge was the primary wagon crossing over Bull Run. Although the bridge survived the fighting in 1861, the span lay in ruins by the time of Second Manassas: Confederates destroyed the bridge during their withdrawal from Bull Run in March 1862. Subsequently, a wooden bridge employed the old stone abutments, and a new stone bridge was constructed on the site in the 1880s.

Today the reconstructed Stone Bridge remains one of the park's most recognized features. Repointed and extensively repaired in 1990, the bridge is generally in good condition. Traces of the Warrenton Turnpike also survive at the approaches to the bridge. On the eastern approach to the bridge, the trace remains as a grass trail maintained for handicapped access, while to the west, a gravel pedestrian trail occupies the old roadbed that covers part of the historic road. The trace resumes west of the parking lot and is interrupted by the berm containing modern U.S. Route 29. Periodic flooding from Bull Run impacts portions of the trace west of the bridge. Upstream from the Stone Bridge was the site of Farm Ford, an important crossing point for Federals during First Manassas. The ford has fallen into disuse since the war and a site marker points to its general location along the hiking trail north of the bridge.

Notable terrain features in the area include Bull Run, which loops through the area, the steep bluffs along the stream's eastern (Fairfax County) bank, and a broad floodplain extending west from the bridge to Van Pelt Hill. Historically, the slope of Van Pelt Hill as well as much of the floodplain lay bare: Confederates felled the trees to allow for clear fields of fire for artillery. Forest growth has since reclaimed the clear-cut area, obscuring the view of the bridge and its approaches.

Stone House

One of only three rehabilitated wartime buildings within the park, the Stone House, is also one of the park's most recognized landmarks. Its location at the junction of the Warrenton Turnpike and the Sudley-Manassas Road helped determine its use. Built in the second quarter of the 19th century, the two-and-a-half story building has served variously as a tavern, post office, and residence. During the Civil War, the house sheltered Union wounded in both

Manassas engagements and graffiti in an upstairs room provides graphic evidence of its occupation. Acquired in 1949 and rehabilitated in the 1960s, the Stone House has become a key interpretive site.

The surrounding landscape aids the interpretation of the site. The well in the front yard dates to the war and is the only other period feature on the grounds. To the north the abrupt slope of Buck Hill rises to the site of Pope's headquarters during Second Manassas. At the foot of Buck Hill, a 1928 bronze tablet memorializing First Manassas forms the only commemorative feature on the landscape. Meanwhile to the south and across the Warrenton Turnpike, Youngs Branch threads its way through a floodplain past the foot of Henry Hill.

Modern U.S. Route 29 and VA Route 234 occupy the roadbeds of the wartime Warrenton Turnpike and the Sudley-Manassas Road, respectively, which meet just west of the house at a historically significant intersection. South of the junction, VA Route 234 continues for a short distance on a new alignment, but the bed of the old road is discernible at Youngs Branch. Despite asphalt surfaces and the presence of a traffic signal, the two roads retain their rural character, and the intersection evokes the appearance of a country crossroads, allowing the public to appreciate the historic setting with minimal intrusions. Heavy through traffic does compromise the visitor experience here, forming the gravest threat to the historic scene at the Stone House. Modern improvements to the intersection include the following:

- Installation of mast-arm mountings for traffic signals
- Addition of left turn lanes to all four legs of the intersection;
- Relocation of the parking lot to the East side of Stone House
- Burying of utility lines
- Alteration of the grade of VA Route 234 going up Buck Hill
- Addition of curbs and drains
- Addition of a pedestrian bridge over Young's Branch

- Addition of pedestrian crosswalks across U.S. Route 29

Stuart's Hill

Located in the southwestern corner of the park, Stuart's Hill was the site of Gen. Robert E. Lee's headquarters during the Second Battle of Manassas. With its summit and eastern slopes cleared, the hill, among the highest points on the battlefield, allowed the Confederate commander to observe troop movements as well as maintain communications with his wing commanders from a signal station near the crest. Today, successional forest growth obscures the sweeping vistas of the 1860s, hindering the park's efforts to interpret the site's historic importance. A narrow corridor on the northeast slope of the hill provides a vista to the neighboring Brawner Farm. Otherwise, dense woods cover the hill's eastern slopes.

At the time of the war, the nearby Cundiff plantation, Meadowville, encompassed much of Stuart's Hill, including the area of Lee's headquarters. Although most development associated with the plantation lay east of the hill, wartime accounts describe the ruins of a structure on the crest. No visible trace remains of this building, but stone piles on the slopes of the hill mark the borders of wartime fields. Other remnant fence lines on the property date to the 1871 partition of the plantation.

To the west, modern development has disturbed the historic setting, but a thin body of forest helps screen the intrusions from view of the crest. A modern park headquarters and interpretive facility now occupies the western slope, and a nonhistoric gravel drive provides vehicular access to the site. At the foot of the western slope lie a string of ponds where Union Brig. Gen. Rufus King and some of his men paused to rest before the Brawner Farm engagement on August 28. Although the ponds are of recent origin, they occupy the area of a pool of water where King and others found refreshment. To the northwest is the key intersection of the Warrenton Turnpike and Pageland Lane, both important corridors of military movement during the battle. The gravel-surfaced Pageland Lane retains the feel of a country byway, but the Warrenton Turnpike at this junction is now the modern four-lane divided U.S. Route 29.

Sudley

Situated at the confluence of Catharpin Run and Bull Run, the wartime community of Sudley was the scene of major events in each battle. The village lay along the route of Federal advance and retreat at First Manassas, and major action occurred in the area during Second Manassas, when the community marked the left flank of the Confederate line. Although little remains the war period, the extant structures and archeological sites provide a sense of the 1860s landscape.

Adjacent to the park boundary on the Sudley-Manassas Road, Sudley Church remains a focal point for the community. Founded in the early 19th century to serve the area's growing Methodist population, Sudley Church later became a temporary hospital for Union wounded at First Manassas. Although the present structure bears no resemblance to the wartime building, the 1920s edifice occupies the same site and serves as a key battlefield landmark today. The church's cemetery lies immediately to the south and contains the graves of numerous residents associated with the park story. The recent expansion of the cemetery, however, occupies land acquired from the park in the 1980s and may impact the historic appearance of the setting.

Across U.S. Route 234 to the northeast and on park lands, the building known as the Thornberry House lies atop a knoll overlooking the stream confluence. According to historic maps and documentary evidence, several structures occupied the property during the battles and served as overflow shelter for the Union wounded at Sudley Church. Recent research suggests that the south block of the present day one-and-a-half story building was constructed prior to the Civil War. The north block and lean-to shed were added later, although their date is uncertain. Portions of the building housed local post office operations at the turn of the century. NPS has completed rehabilitation of the Thornberry House to permit future public access to the building's interior. The structure is one of only three wartime buildings within the park.

Archeological features mark the location of other structures and features that comprised the wartime village. North of Thornberry House, on privately owned land across Catharpin Run, a stone pile marks the site of the historic spring house that adjoined Sudley Springs Ford. Union

troops passed this feature on their march onto the battlefield at First Manassas. South of the Thornberry House, the ruins of the Amos Benson House lie adjacent to a pronounced cut of the Unfinished Railroad. The Bensons, parishioners of Sudley Church, helped tend to Union wounded at First Manassas, and their home, known as Christian Hill, became a battlefield landmark. After Benson and his wife died, the house fell into ruin early in the 20th century. Across the railroad cut from the Benson site, numerous disinterred soldiers' graves dot the ground.

Outside the park, remnants of the historic Sudley Mill complex and its adjacent millrace lie north of Catharpin Run upstream from the modern crossing of VA Route 234. Few other traces remain on park land. No visible ruins survive from several nondescript structures that lay across the Sudley-Manassas Road from the church. These structures may have been moved to form the present Thornberry House. One farmstead, identified as the Cushing Farm, lay south of the church in the area of the cemetery expansion, but nothing remains above ground from the farmstead. Farther south beyond the Unfinished Railroad, foundations and depressions mark the site of a 19th century farmstead. Traditionally identified as the wartime house site of Mahala Dean, a free African American, the features may date to a postwar farm.

Evidence of the wartime transportation network in the Sudley area abounds despite some 20th century alterations. Modern VA Route 234 occupies much of the roadbed of the historic Sudley-Manassas Road south of the church. To the north, however, the highway follows a new alignment slightly west of the wartime road, and the historic route continues onto park land as a well-defined trace. The trace terminates at Sudley Springs Ford on Catharpin Run. Beyond the stream the road continued north to Sudley Ford, where the Union turning column crossed Bull Run at First Manassas. The site of Sudley Ford, on private land, falls partly within the Cedar Crest Country Club.

Approaching from the west, the route of the historic Groveton-Sudley Road (now Featherbed Lane) also follows a new course through the Sudley area and intersects the Sudley-Manassas Road just north of the church. An abandoned

stretch of the wartime road continues as a trace running northward to the site of the Sudley Mill complex. Meanwhile to the south, the cuts and fills of the Unfinished Railroad slice through the Sudley area and now form part of the park's trail system. (This feature is described in more detail below.)

The landscape in the Sudley area is somewhat more wooded today than in the 1860s. Across the Sudley-Manassas Road from the church, woods now blanket the former Benson property. To the southwest, forest growth covers a rocky knoll that South Carolina troops held during Second Manassas.

Unfinished Railroad

Extending across the northwestern portion of the battlefield, the Unfinished Railroad saw some of the heaviest fighting of the Second Battle of Manassas. Dubbed the Independent Line of the Manassas Gap Railroad, the line lay incomplete at the outset of war, with only the graded rail bed in place. The cuts and fills of the rail bed served as a defensive position for Stonewall Jackson's Confederates during the battle and a focus of Union assaults. Today the graded bed of the Unfinished Railroad remains intact along its two-mile course through the park. In addition to the cuts and fills of the roadbed, an abandoned quarry lies adjacent to the railroad just east of Pageland Lane on the park's western border. Remnants of stone piers for a planned trestle over Bull Run also survive at the park's eastern border, where the railroad crosses into a private golf course.

Along most of the railroad's path through the battlefield, park trails run over and along the rail bed, causing soil compaction and erosion in numerous places. In some areas, trail construction has altered the appearance of the resource to accommodate pedestrian use. Still, the most notable change to the historic setting is in the ground cover. Successional forests have replaced open fields, particularly west of Featherbed Lane, which bisects the rail bed. Postwar forest growth in this area almost entirely obscures the key terrain where the Union attack on the railroad's Deep Cut occurred, completely blocking historic views from the Brawner Farm area. The recent vista at the Deep Cut is far too narrow to convey the historic appearance of this important landscape. East of Featherbed Lane the terrain generally retains its wooded character,

with the wartime Groveton Woods covering much of the area of the railroad just east of the road. Farther to the east, however, woods now cover the rocky knoll near Sudley, where Maxcy Gregg's South Carolinians received heavy attacks on August 29.

Two commemorative features serve to highlight the fierce fighting in the Deep Cut area. Erected by Union troops in 1865, the Groveton Monument (also known as the Deep Cut Monument) sits adjacent to the Deep Cut and overlooks the slopes where Union troops struggled to advance. At the foot of the slope next to Schoolhouse Branch, the Cedar Pole Marker indicates the position of Berdan's Sharpshooters along the stream during the attack on the Confederates' Deep Cut position. The extant pole and sign are replacements for the postwar marker, originally installed by a Union veteran. Nearby, shallow depressions indicate the location of disinterred soldiers' graves from the battle. Other disinterred burial sites lay near the Unfinished Railroad in the Sudley area and north of the Brawner Farm.

Van Pelt

Overlooking the Stone Bridge and Bull Run, Van Pelt Hill was a strategic location during the First Battle of Manassas. Confederate forces deployed here to guard the stream crossing and maintained a signal station on the hilltop to communicate

with their army's far-flung positions. Southern artillerists also unlimbered here to discourage Federals from advancing over the nearby bridge and cleared the hillside facing Bull Run to permit a clear field of fire.

The most prominent wartime feature was the farmstead of Abraham Van Pelt. Built in the 1850s, the Van Pelt House stood on the crest and withstood Union shelling in 1861. The house was destroyed by fire in 1932, and only depressions remain to mark the location. The remains include the backfilled site of the house and several ancillary structures. The trace of the wartime farm lane survives just west of the house site and extends south to the traces of the original Warrenton Turnpike. These traces survive south of U.S. Route 29, which cuts through the southern portion of Van Pelt Hill. West of the hill, near Youngs Branch, the historic roadbed and the modern highway merge. An historic farm lane, now known as Rock Road, intersects the Warrenton Turnpike south of the farmstead and forms part of the park's trail system.

The Van Pelt landscape retains much of its open appearance. To the east, however, forest growth covers the slopes of the hill facing Bull Run. The vegetation blocks historic views of the stream and the nearby Stone Bridge and somewhat hinders interpretive efforts in this area.

APPENDIX B: DESCRIPTION OF BATTLE EVENTS

First Manassas—July 21, 1861

Maps A-1 and A-2 depict the events of the First Battle of Manassas.

Confederate Headquarters and Defense of Bull Run

Confederate forces establish defensive positions along Bull Run protecting the strategic rail center of Manassas Junction and await approach of Union Army under Brig. Gen. Irvin McDowell. North of Lewis Ford, Southern defenders throw up rifle pits and gun emplacements along the stream. Confederate Gen. Joseph E. Johnston moves his headquarters to Portici at midday as the battle develops on the Confederate left.

Confederate Defense of Bull Run

Union forces advance along the Warrenton Turnpike and demonstrate at Stone Bridge, while a turning column marches north toward Sudley Ford. Union artillery direct initial shots at the Van Pelt House.

Confederate defenders under Col. Nathan Evans learn of Union turning movement and shift from Van Pelt Hill to vicinity of Pittsylvania to guard possible crossing at Poplar Ford before marching toward Matthews Hill to check Union advance. Union Col. William T. Sherman locates crossing at Farm Ford at mid-morning and directs his troops to ford Bull Run.

Union Advance and Retreat

Union turning column crosses Bull Run at Sudley Ford and begins to march south along Sudley Road, crossing Catharpin Run at Sudley Springs Ford en route. Union wounded later find shelter and treatment at temporary hospital at Sudley Church; neighboring structures (now comprising Thornberry House) provide overflow shelter. Union forces withdraw across Sudley Ford (as well as other crossing points) at close of battle.

Initial Fighting

Fighting erupts as Union turning column marches south on Sudley Road and encounters Evans' Confederates at Matthews Hill. The battle swells as Union troops spill onto Dogan Ridge and Confederate reinforcements arrive from Henry Hill.

Southern resistance collapses as Confederates retreat from positions on Matthews Hill and Buck Hill to Henry Hill. Union troops pursue to the vicinity of the Stone House, but a lull in the fighting gives the Confederates reprieve.

Core Fighting

Confederate reinforcements arrive on Henry Hill at midday, and Southern resistance coalesces on the line of Brig. Gen. Thomas J. Jackson's Virginians. Sporadic fighting continues near the Robinson House and on the northern area of Henry Hill while Union forces ready for a renewal of their advance.

Union forces resume their offensive as Federal batteries advance to Henry Hill and take positions around the Henry House. Artillery duel leads to stalemated battle, and Union Capt. Charles Griffin seeks the advantage by moving two of his guns toward Jackson's left flank. Confederate infantry seizes Griffin's two exposed guns, launching a struggle for the Union batteries and the control of Henry Hill. With reinforcements steadily arriving, the Confederates gain possession of Henry Hill.

Final Union Advance

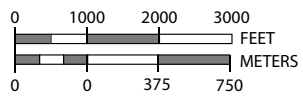
In an effort to turn the Confederate position on Henry Hill, O. O. Howard's Union brigade advances to Chinn Ridge.

Along a line extending from Sudley Road to the Chinn House, Confederate forces sweep across Chinn Ridge and drive off Howard's brigade, leading to a general Union withdrawal from the field.

Figure A-1
First Manassas:
Phases 1 and 2

SYMBOL KEY

- Current National Battlefield Park Boundary
- Battle Sites
- Farmstead Site
- Unfinished Railroad Grade
- Wooded Areas (Wartime)
- Phase One Union Army
- Phase One Confederate Army
- Phase Two Union Army
- Phase Two Confederate Army

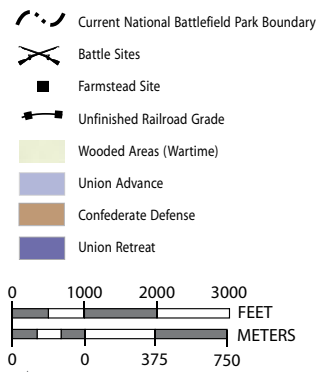


NORTH



Figure A-2
First Manassas:
Phase 3 and Union Retreat

SYMBOL KEY



Second Manassas, August 28 -30, 1862

Maps A-3 and A-4 depict the events of the First Battle of Manassas.

Initial Fighting

Confederate forces under Maj. Gen. Thomas J. Stonewall Jackson find concealment on wooded slopes of Stony Ridge and observe Union movements across their front on August 28.

An isolated Union division under Brig. Gen. Rufus King marches first north on Pageland Lane, then east onto the Warrenton Turnpike, headed for Centreville.

Jackson's Confederates fire on king's column at the Brawner Farm and draw the Federals into battle.

Advancing first through the Brawner Woods (or Gibbon's Woods), King's infantry encounters Jackson's troops in the fields east of the Brawner House in a battle that lasts until dusk.

The combat intensifies as the battle lines spread onto the neighboring Lucinda Dogan Farm; at dark, King's Federals withdraw from the contested field.

Union Attacks

Union forces probe the slopes of Stony Ridge on August 29 and locate Jackson's Confederates aligned along the cuts and fills of the Unfinished Railroad.

In a series of piecemeal attacks on the Unfinished Railroad, Union troops pierce the

Confederates' front but fail to dislodge the defenders from their strong position.

At dusk, Union troops probe westward on the Warrenton Turnpike and clash with a Confederate force advancing east of Groveton.

Union attacks resume on August 30, culminating in a major assault on Jackson's line at the Deep Cut of the Unfinished Railroad.

With the help of Confederate artillery near the Brawner Farm, Jackson's infantry repulses the Union assault at the Deep Cut.

Confederate Headquarters and Staging Area

Gen. Robert E. Lee arrives on the battlefield during the late morning of August 29 and set up his headquarters on Stuart's Hill.

Maj. Gen. James Longstreet's Confederate forces deploy across the Cundiff and W. Lewis farms (Meadowville and Brownsville, respectively) and await orders.

Lee and Longstreet unleash a massive counterattack late in the day on August 30, as the Union assault on the Deep Cut collapses.

Union Headquarters and Staging Area

Maj. Gen. John Pope arrives on the battlefield at midday on August 29 and establishes his headquarters on Buck Hill.

Union artillery unlimbers on Dogan Ridge to support attacks on the Confederates along the Unfinished Railroad.

Figure A-3
Second Manassas:
Phases 1 and 2

SYMBOL KEY

Current National Battlefield Park Boundary

Battle Sites

Farmstead Site

Unfinished Railroad Grade

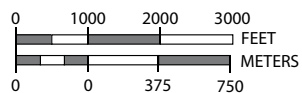
Wooded Areas (Wartime)

Phase One Union Army

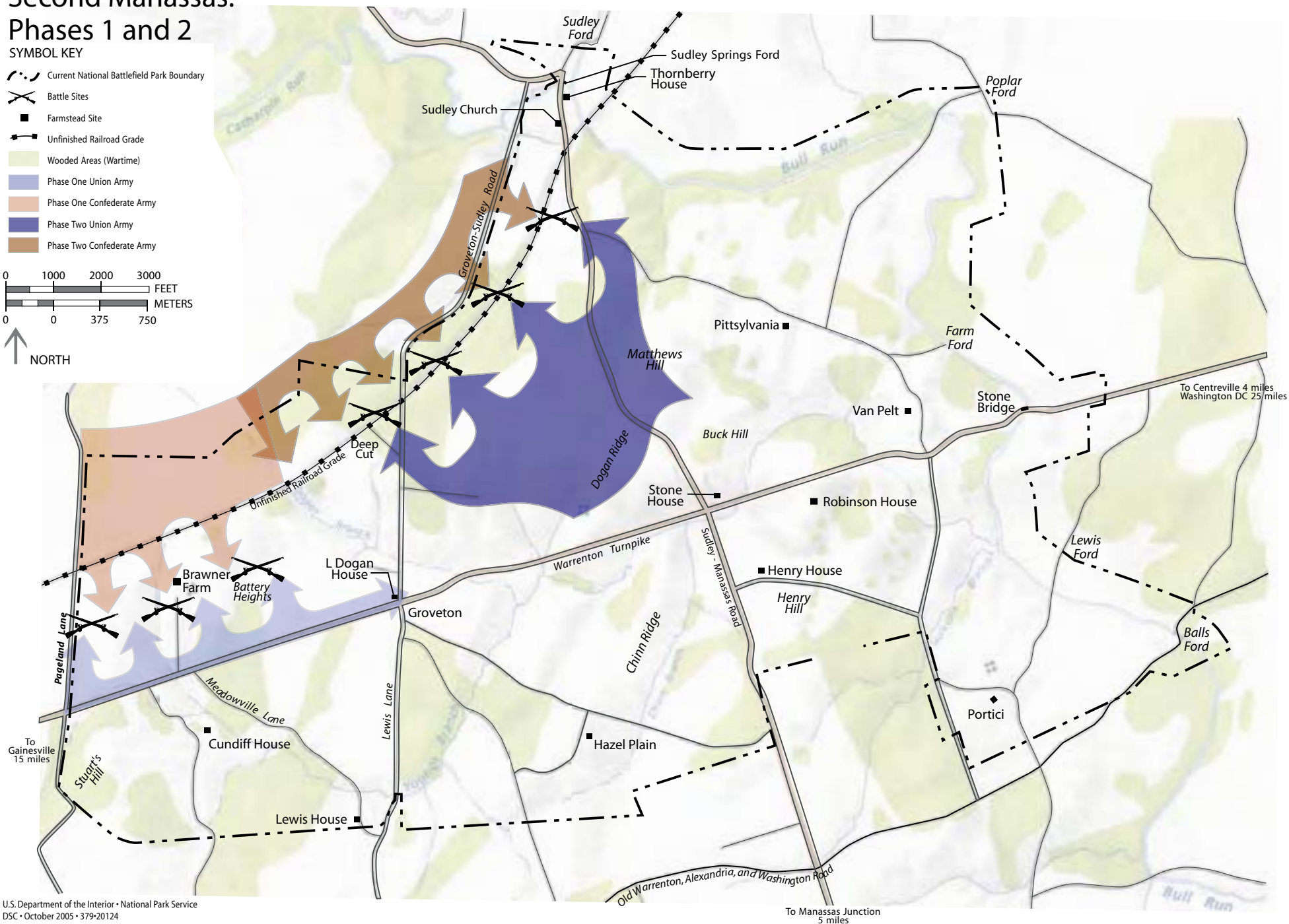
Phase One Confederate Army

Phase Two Union Army

Phase Two Confederate Army

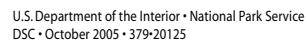


NORTH



SYMBOL KEY

 Current National Battlefield Park Boundary



APPENDIX C: RELEVANT LEGISLATION AND SPECIAL MANDATES

V. NATIONAL BATTLEFIELD PARKS

1. Manassas National Battlefield Park

	Page
Designation of area as a national historic site, to be known as Manassas National Battlefield Park: Order of May 10, 1940.....	71

ORDER DESIGNATING THE MANASSAS NATIONAL BATTLEFIELD PARK, PRINCE WILLIAM COUNTY, VA.

[May 10, 1940—5 F. R. 1824]

WHEREAS the Congress of the United States has declared it to be a national policy to preserve for the public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States; and

WHEREAS certain lands and structures in Manassas Magisterial District, Prince William County, Virginia, because of their historical importance as the battlefield site of the First and Second battles of Manassas during the war between the States, have been declared by the Advisory Board on National Parks, Historic Sites, Buildings and other monuments to be of national significance; and

WHEREAS title to the above-mentioned lands with the buildings and structures thereon is vested in the United States:

NOW, THEREFORE, I, Harold L. Ickes, Secretary of the Interior, under and by virtue of the authority conferred by section 2 of the act of Congress approved August 21, 1935 (49 Stat. 666), do hereby designate all those certain tracts or parcels of land, with the structures thereon, containing approximately 1,604.575 acres and situated in Manassas Magisterial District, Prince William County, Virginia, as shown upon the diagram hereto attached and made a part hereof, to be a national historic site, having the name "Manassas National Battlefield Park."

The administration, protection, and development of this area shall be exercised by the National Park Service in accordance with the provisions of the act of August 21, 1935, *supra*.

Warning is expressly given to all unauthorized persons not to appropriate, injure, destroy, deface or remove any feature of this park.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the Department of the Interior to be affixed, in the City of Washington this 10th day of May 1940.

[SEAL]

HAROLD L. ICKES,
Secretary of the Interior.

Public Law 338 - 83d Congress
Chapter 153 - 2d Session
H. R. 5529

AN ACT

To preserve within Manassas National Battlefield Park, Virginia, the most important historic properties relating to the battles of Manassas, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, in order to establish satisfactory boundaries for the Manassas National Battlefield Park, in the State of Virginia, and to contain within such boundaries the important historic lands relating to the two battles of Manassas, the boundaries of such battlefield park hereafter shall contain that area which is bounded, in general, as follows: The south boundary of the park shall be the southernmost limits of the present federally owned lands in the south portion of the park; the east and northeast boundaries shall be that portion of the Bull Run Creek which extends from the south boundary of the park north and westward to the north boundary of the park as hereinafter prescribed; the southwest boundary shall be that portion of Compton's Lane from its nearest point adjacent to the south boundary and extending northwesterly to State secondary highway numbered 622; the west and northwest boundary shall be State secondary highway numbered 622, from the point where it connects with Compton's Lane and extending northward until it reaches the Sudley Church property; the north boundary shall be the northernmost limits of the present Federal park holdings in the immediate vicinity of the Sudley Church property. The boundaries of the park also may include not more than two hundred and fifty acres of land adjacent to the aforesaid west and north boundaries of the park, which land shall become a part of the park upon acquisition thereof by the United States: *Provided*, That the total acreage which may be acquired for the park pursuant to this Act shall not exceed one thousand four hundred acres. Such land or interests therein may be procured by the Secretary of the Interior in such manner as he may consider to be in the public interest.

Manassas
National
Battlefield
Park.
Boundaries.

For exchange purposes, particularly in connection with State and other highway developments, the Secretary is authorized to accept, on behalf of the United States, any non-Federal land or interests therein situated within the park area herein prescribed, and in exchange therefor to convey park land or interests therein of approximately equal value.

68 Stat. 56.
68 Stat. 57.

Approved April 17, 1954.

PUBLIC LAW 96-442—OCT. 13, 1980

94 STAT. 1885

Public Law 96-442
96th Congress

An Act

To amend the Act entitled "An Act to preserve within Manassas National Battlefield Park, Virginia, the most important historic properties relating to the battle of Manassas, and for other purposes", approved April 17, 1954 (68 Stat. 56; 16 U.S.C. 429b).

Oct. 13, 1980
[H.R. 5048]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Manassas National Battlefield Park Amendments of 1980".

SEC. 2. The Act entitled "An Act to preserve within the Manassas National Battlefield Park, Virginia, the most important historic properties relating to the battle of Manassas, and for other purposes", approved April 17, 1954 (16 U.S.C. 429b), is amended to read as follows: "That there is established as a unit of the national park system in the Commonwealth of Virginia the Manassas National Battlefield Park, which shall contain within its boundaries the important historical lands relating to the two battles of Manassas. The total area of the park shall not be greater than four thousand five hundred and twenty-five acres. The boundaries of the park shall be the boundaries depicted on the map entitled 'Boundary Map, Manassas National Battlefield Park', dated October 1980, and numbered 379/80,009, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. The Secretary shall publish in the Federal Register, as soon as practicable after the date of the enactment of this Act, but no later than one year from the effective date of this section, a detailed description and map of the boundaries. Notwithstanding section 7(c) of the Land and Water Conservation Fund Act of 1965 (91 Stat. 211), as amended (16 U.S.C. 4601), the Secretary may not make any changes in the boundaries of the park. The Secretary shall administer the park in accordance with laws, rules, and regulations applicable to the national park system.

"SEC. 2. (a) In order to effectuate the purposes of this Act, the Secretary is authorized to acquire by donation, purchase with donated or appropriated funds or exchange, any property or interests therein which are located within the boundaries of the park, except that property owned by the Commonwealth of Virginia or by any political subdivision thereof may be acquired only by donation.

"(b) With respect to areas within the 1954 boundaries of the park, as identified on the map referred to in the first section of this Act, the Secretary may not acquire fee simple title to such areas without the consent of the owner so long as the lands continue to be devoted to a use which is the same as that in effect on September 1, 1980. Further, if the Secretary proposes to acquire fee simple title to such property because of a change in use, the owner of such property may seek a review of the proposed acquisition of his or her property and is entitled to a hearing on the record in accordance with section 554 of title 5 of the United States Code.

Manassas
National
Battlefield
Amendments of
1980.
16 USC 429b
note.
16 USC 429b.

Description.

Publication in
Federal
Register.

16 USC 4601-9.

Funding.
16 USC 429b-1.

94 STAT. 1886

PUBLIC LAW 96-442—OCT. 13, 1980

Route 234
bypass.

"(c) If the Virginia Department of Highways and Transportation determines that the proposed Route 234 bypass should be properly located between the Virginia Electric Power Company powerline easement and Route 705, the Secretary shall make available the land necessary for such bypass, subject to such revisions, terms, and conditions as the Secretary deems are necessary and appropriate to assure that such bypass is located, constructed, operated, and maintained in a manner consistent with the administration of the park.

"(d) The Secretary may not close any State roads within the park unless action permitting the closing of such roads has been taken by appropriate officials of the Commonwealth of Virginia.

Residential
property.
16 USC 429b-2.

"SEC. 3. (a) Subsequent to the date of enactment of this section, the owner of improved property on the date of its acquisition by the Secretary may, as a condition of such acquisition, retain for himself and his heirs and assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term of not more than twenty-five years or for a term ending at the death of the owner or the death of the spouse of the owner, whichever is later. The owner shall elect the term to be reserved. Unless this property is wholly or partially donated to the United States, the Secretary shall pay the owner an amount equal to the fair market value of the property on the date of its acquisition less the value on such date of the right retained by the owner. If such property is donated (in whole or in part) to the United States, the Secretary may pay to the owner such lesser amount as the owner may agree to. A right retained pursuant to this section shall be subject to termination by the Secretary upon his determination that it is being exercised in a manner inconsistent with the purposes of this Act, and it shall terminate by operation of law upon the Secretary's notifying the holder of the right of such determination and tendering to him an amount equal to the fair market value of that portion of the right which remains unexpired.

42 USC 4601.

"(b) No property owner who elects to retain a right of use and occupancy under this section shall be considered a displaced person as defined in section 101(6) of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (84 Stat. 1894). Such owners shall be considered to have waived any benefits which would otherwise accrue to them under sections 203 through 206 of such Act.

42 USC
4623-4626
Definitions.
16 USC 429b-3.

"SEC. 4. For purposes of this Act—

"(1) The term 'improved property' means a detached, one-family dwelling, construction of which was begun before January 1, 1979, which is used for noncommercial residential purposes, together with not to exceed three acres of land on which the dwelling is situated and together with such additional lands or interests therein as the Secretary deems to be reasonably necessary for access thereto, such lands being in the same ownership as the dwelling, together with any structures accessory to the dwelling which are situated on such land.

"(2) The term 'park' means the Manassas National Battlefield Park established under this Act.

"(3) The term 'Secretary' means the Secretary of the Interior.

"(4) The term 'owner' means the owner of record as of September 1, 1980.

16 USC 429b-4.

"SEC. 5. (a) In addition to sums heretofore expended for the acquisition of property and interests therein for the park, from funds available for expenditure from the Land and Water Conservation Fund, as established under the Land and Water Conservation Fund

PUBLIC LAW 96-442—OCT. 13, 1980

94 STAT. 1887

Act of 1965, not more than a total of \$8,700,000 may be expended for the acquisition of property and interests therein under this Act. 16 USC 4601-4 note.

"(b) It is the express intent of Congress that, except for property referred to in subsection 2(b), the Secretary shall acquire property and interests therein under this Act within two complete fiscal years after the date of the enactment of the Manassas National Battlefield Park Amendments of 1980.

"SEC. 6. (a) Authorizations of moneys to be appropriated under this Act from the Land and Water Conservation Fund for acquisition of properties and interests shall be effective on October 1, 1981. Ante, p. 1885. Effective date. 16 USC 429b-5.

"(b) Notwithstanding any other provision of this Act, authority to enter into contracts, to incur obligations, or to make payments under this Act shall be effective only to the extent, and in such amounts as are provided in advance in appropriation Acts."

Approved October 13, 1980.

H. R. 4333—469

- (21) Item 907.69 (relating to sodium tartrate).
- (22) Item 907.76 (relating to lactulose).
- (23) Item 910.00 (relating to diamond tool and drill blanks).
- (24) Item 911.50 (relating to unwrought lead).
- (25) Item 912.13 (relating to certain power-driven flat knitting machines and parts thereof).
- (b) OTHER EXTENSIONS.—
 - (1) Item 907.00 (relating to p-hydroxybenzoic acid) is amended by striking out "9/30/85" and inserting in lieu thereof "12/31/88".
 - (2) Item 907.22 (relating to caffeine) is amended by striking out "On or before 12/31/87" and inserting in lieu thereof "On or before the earlier of 12/31/92 or the date on which the rate of duty imposed by the European Communities on articles described in item 437.02 exceeds the rate of duty imposed by the United States on such articles that was in effect on 6/30/88"

TITLE X—MANASSAS NATIONAL BATTLEFIELD PARK

SEC. 10001. SHORT TITLE.

This title may be cited as the "Manassas National Battlefield Park Amendments of 1988".

SEC. 10002. ADDITION TO MANASSAS NATIONAL BATTLEFIELD PARK.

The first section of the Act entitled "An act to preserve within Manassas National Battlefield Park, Virginia, the most important historic properties relating to the battle of Manassas, and for other purposes", approved April 17, 1954 (16 U.S.C. 429b), is amended—

- (1) by inserting "(a)" after "That"; and
- (2) by adding at the end thereof the following:

"(b)(1) In addition to subsection (a), the boundaries of the park shall include the area, comprising approximately 600 acres, which is south of U.S. Route 29, north of Interstate Route 66, east of Route 705, and west of Route 622. Such area shall hereafter in this Act be referred to as the 'Addition'.

"(2)(A) Notwithstanding any other provision of law, effective on the date of enactment of the Manassas National Battlefield Park Amendments of 1988, there is hereby vested in the United States all right, title, and interest in and to, and the right to immediate possession of, all the real property within the Addition.

"(B) The United States shall pay just compensation to the owners of any property taken pursuant to this paragraph and the full faith and credit of the United States is hereby pledged to the payment of any judgment entered against the United States with respect to the taking of such property. Payment shall be in the amount of the agreed negotiated value of such property or the valuation of such property awarded by judgment and shall be made from the permanent judgment appropriation established pursuant to 31 U.S.C. 1304. Such payment shall include interest on the value of such property which shall be compounded quarterly and computed at the rate applicable for the period involved, as determined by the Secretary of the Treasury on the basis of the current average market yield on outstanding marketable obligations of the United States of comparable maturities from the date of enactment of the Manassas

H. R. 4333—470

National Battlefield Park Amendments of 1988 to the last day of the month preceding the date on which payment is made.

"(C) In the absence of a negotiated settlement, or an action by the owner, within 1 year after the date of enactment of the Manassas National Battlefield Park Amendments of 1988, the Secretary may initiate a proceeding at anytime seeking in a court of competent jurisdiction a determination of just compensation with respect to the taking of such property.

"(3) Not later than 6 months after the date of enactment of the Manassas National Battlefield Park Amendments of 1988, the Secretary shall publish in the Federal Register a detailed description and map depicting the boundaries of the Addition. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

"(c) The Secretary shall not allow any unauthorized use of the Addition after the enactment of the Manassas National Battlefield Park Amendments of 1988, except that the Secretary may permit the orderly termination of all operations on the Addition and the removal of equipment, facilities, and personal property from the Addition."

SEC. 10003. VISUAL PROTECTION.

Section 2(a) of the Act entitled "An Act to preserve within Manassas National Battlefield Park, Virginia, the most important historic properties relating to the battle of Manassas, and for other purposes", approved April 17, 1954 (16 U.S.C. 429b-1), is amended—

(1) by inserting "(1)" after "(a)"; and

(2) by adding at the end thereof the following:

"(2) The Secretary shall cooperate with the Commonwealth of Virginia, the political subdivisions thereof, and other parties as designated by the Commonwealth or its political subdivisions in order to promote and achieve scenic preservation of views from within the park through zoning and such other means as the parties determine feasible."

SEC. 10004. HIGHWAY RELOCATION.

(a) STUDY.—The Secretary of the Interior (hereafter in this section referred to as the "Secretary"), in consultation and consensus with the Commonwealth of Virginia, the Federal Highway Administration, and Prince William County, shall conduct a study regarding the relocation of highways (known as routes 29 and 234) in, and in the vicinity of, the Manassas National Battlefield Park (hereinafter in this section referred to as the "park"). The study shall include an assessment of the available alternatives, together with cost estimates and recommendations regarding preferred options. The study shall specifically consider and develop plans for the closing of those public highways (known as routes 29 and 234) that transect the park and shall include analysis of the timing and method of such closures and of means to provide alternative routes for traffic now transecting the park. The Secretary shall provide for extensive public involvement in the preparation of the study.

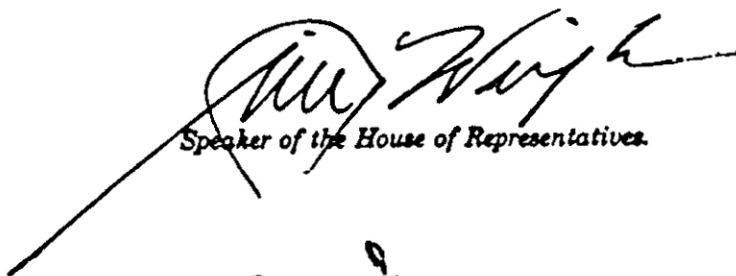
(b) DETERMINATION.—Within 1 year after the enactment of this Act, the Secretary shall complete the study under subsection (a). The study shall determine when and how the highways (known as routes 29 and 234) should be closed.

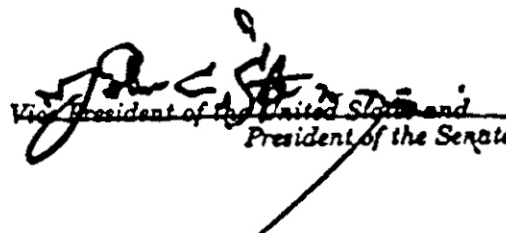
(c) ASSISTANCE.—The Secretary shall provide funds to the appropriate construction agency for the construction and improvement of

H. R. 4333—471

the highways to be used for the rerouting of traffic now utilizing highways (known as routes 29 and 234) to be closed pursuant to subsection (b) if the construction and improvement of such alternatives are deemed by the Secretary to be in the interest of protecting the integrity of the park. Not more than 75 percent of the costs of such construction and improvement shall be provided by the Secretary and at least 25 percent shall be provided by State or local governments from any source other than Federal funds. Such construction and improvement shall be approved by the Secretary of Transportation.

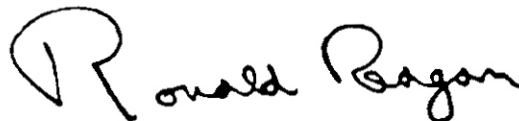
(d) AUTHORIZATION.—There is authorized to be appropriated to the Secretary not to exceed \$30,000,000 to prepare the study required by subsection (a) and to provide the funding described in subsection (c).


Speaker of the House of Representatives.


~~Vice President of the United States and~~
President of the Senate pro tempore

APPROVED

NOV 10 1968


Ronald Reagan

APPENDIX D: ESTIMATED COSTS

Three types of costs have been quantified for the alternative plans. The first are “Class C” estimates of the elements of the alternatives; the second are the operating costs related to the elements; and the third are the life cycle costs. The following discussion defines the cost parameters, identifies the estimates, and lists the assumptions made in developing them. All costs are in 2005 dollars.

CLASS C ESTIMATES

Class C costs are rough estimates that are developed based on the average cost of similar facilities. Actual costs may be higher or lower depending on the final design, site conditions, and the contracting agency. These estimates are preliminary and are intended to help the comparison of the relative cost of alternatives. The quantities shown for each of the alternatives have been derived from information provided by the Park staff, as well as examination of various mapping and aerial photography resources. Low and high range costs have been derived from unit costs available within the region. These cost estimates do not include all items that will be listed in the more inclusive Class C cost estimate to be developed in subsequent planning efforts. For example, the more inclusive Class C cost estimates for the visitor center would include exhibits, furnishings, and landscaping. The results of the analysis along with notes on the assumptions are shown in the following Table 5-2.

Because of the generalized nature of these cost estimates, Table 5-2 only breaks down costs

into general categories. Those categories and the items they include are listed below. Parenthetical notes indicate items that are only included in alternative (B) or (C):

- Park Enhancements: interpretive trails, bridle trails, forest cuts, and forest restoration (B).
- Recreation Zone Enhancements: picnic tables, grills, trash cans, water fountains, bicycle racks, restroom facilities, and landscaping.
- Transportation Enhancements: entrance stations and gates, intersection improvements and demolition, bridge demolition and construction (C), entry road construction (C), and horse trailer parking facility construction.
- Park Facility Enhancements: Stuart’s Hill Visitor Contact Station improvements (B), demolition of existing visitor center (C), construction of new visitor center (C), and boundary adjustments.

ANNUAL COSTS

Annual costs include staff salaries and annual operating and maintenance costs. The present worth of the annual costs was calculated based on a 4% rate of inflation over 25 years.

LIFE CYCLE COSTS

Life cycle cost estimates consider the long term costs related to the operating and maintenance facilities. These preliminary estimates are made by using a range of costs related to recurring maintenance and energy needs for buildings and facilities.

Table 5-2: Range of Costs by Alternative						
	Alternative A		Alternative B		Alternative C	
	Cost Range		Cost Range		Cost Range	
	Low	High	Low	High	Low	High
Initial one-time costs –Total	\$2,411,000	\$5,166,000	\$19,729,000	\$42,276,000	\$34,495,000	\$73,918,000
New Development *	\$315,000	\$675,000	\$1,947,000	\$4,173,000	\$14,584,000	\$31,252,000
Major rehabilitation or replacement	\$1,671,000	\$3,580,000	\$12,139,000	\$26,011,000	\$12,139,000	\$26,011,000
Interpretive media	\$426,000	\$ 913,000	\$533,000	\$1,141,000	\$2,662,000	\$5,704,000
Other initial one-time costs (Boundary Expansion)	\$0	\$0	\$5,111,000	\$ 10,951,000	\$5,111,000	\$10,951,000
Recurring Annual Costs - Present Worth **	\$29,313,000	\$62,813,000	\$42,648,000	\$91,389,000	\$44,334,000	\$95,001,000
Recurring Annual Costs	\$1,662,000	\$3,561,00	\$2,418,000	\$5,181,000	\$2,712,000	\$5,811,000
Replace Cost/Salvage Value	\$5,136,000	\$11,006,000	\$5,141,000	\$11,016,000	\$6,643,000	\$14,235,000
Total life-cycle costs (calculate for 25 years at 7% discount rate)	\$36,861,000	\$78,987,000	\$67,518,000	\$144,681,000	\$88,972,000	\$190,655,000

Range of Costs – based on cost engineering standard of -30%/+50% for order-of-magnitude estimates (AACE International Recommended Practice No. 18R-97, Figure 31a (ANSI Standard Z94.0)). Example: Estimate of \$1,000,000 has an accuracy range of \$700,000 to \$1,500,000.

* New Development in alternative B includes the demolition of the Bull Run Bridge. New Development in alternative C includes the demolition of the Bull Run Bridge and the building of a new bridge outside of the cultural landscape, and construction of a new visitor center near Stone Bridge.

** The present worth of the recurring annual costs was calculated based on a 4% rate of inflation over 25 years.

APPENDIX E: THREATENED, ENDANGERED, AND RARE SPECIES AND NATURAL COMMUNITIES

As part of this General Management Plan and Environmental Impact Statement, a request was made to the United States Department of the Interior Fish and Wildlife Service for information related to threatened, endangered

and rare plant and animal species and natural communities in and around Manassas National Battlefield Park. The Fish and Wildlife Service's response is included below.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6669 Short Lane
Gloucester, VA 23061



August 27, 2004

Project name: Manassas Nat'l Battlefield Park
Project number: 9037 City/County, VA: Fairfax, Loudan, + Prince William

Greetings:

The U.S. Fish and Wildlife Service has reviewed your request for information on federally listed or proposed endangered or threatened species and designated critical habitat for the above referenced project. The following comments are provided under provisions of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

☒ You requested scoping comments. Enclosed are county lists with species fact sheets. The Service recommends surveys within appropriate habitat. If this project involves a Federal agency (Federal permit, funds, land), we encourage the Federal agency to contact this office if they determine their proposed action is likely to adversely affect federally listed species or critical habitat.

☒ or should be within next week
The information you requested is available at our website at <http://virginiafieldoffice.fws.gov>.

____ We recommend that you contact **both** of the State agencies listed below since each agency maintains a different database and has differing expertise and/or regulatory responsibility.

Virginia Dept of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230
(804) 367-1000

Virginia Dept of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 2nd Floor
Richmond, VA 23219
(804) 786-7951

____ Enclosed is information about communication towers and how certain categories of work may not require further coordination.

____ We concur that the proposed action is not likely to adversely affect federally listed species.

If you have any questions, please contact _____ at (804) 693-6694, ext. _____.

Sincerely,


for Karen L. Mayne
Supervisor
Virginia Field Office

LOUDOUN COUNTY, VIRGINIA
Federally Listed, Proposed, and Candidate Species

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
------------------------	--------------------	---------------

None documented

Species of Concern (No official Federal status)

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

¹This 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

FAIRFAX COUNTY, VIRGINIA
Federally Listed, Proposed, and Candidate Species

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>BIRDS</u>		
<i>Haliaeetus leucocephalus</i> ¹	Bald eagle	LT
<u>VASCULAR PLANTS</u>		
<i>Aeschynomene virginica</i> ²	Sensitive joint-vetch	LT
<i>Isotria medeoloides</i> ²	Small whorled pogonia	LT

Species of Concern (No official Federal status)

<u>INVERTEBRATES</u>		
<i>Elliptio lanceolata</i>	Yellow lance	G3
<i>Gomphus ventricosus</i>	Skillet clubtail	G3
<i>Lasmigona subviridis</i>	Green floater	G3
<i>Pyrgus wyandot</i>	Appalachian grizzled skipper	G2
<i>Speyeria idalia</i> ³	Regal fritillary	G3
<i>Stygobromus kenki</i>	Rock Creek groundwater amphipod	G1
<i>Stygobromus phreaticus</i>	Northern Virginia well amphipod	G1G2
<i>Stygobromus pizzinii</i>	Pizzini's amphipod	G2
<u>VASCULAR PLANTS</u>		
<i>Agalinis auriculata</i>	Earleaf foxglove	G3
<i>Carex decomposita</i>	Epiphytic sedge	G3
<i>Chamaecrista fasciculata</i> var. <i>macrocarpa</i> ²	Marsh senna	G5T2
<i>Eriocaulon parkeri</i>	Parker's pipewort	G3
<i>Paronychia virginica</i> var. <i>virginica</i>	Yellow nailwort	G4T1T2Q
<i>Pycnanthemum torrei</i>	Torrey's mountain-mint	G2
<i>Sida hermaphrodita</i>	Virginia mallow	G2
<i>Vitis rupestris</i>	Sand grape	G3

¹Nesting occurs in this county; concentrated shoreline use has been documented on the Potomac River.

²This species has been documented in an adjacent county and may occur in this county.

³A survey for this species is not recommended.

May 29, 2001

Prepared by U.S. Fish and Wildlife Service, Virginia Field Office

PRINCE WILLIAM COUNTY, VIRGINIA
Federally Listed, Proposed, and Candidate Species

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>STATUS</u>
<u>BIRDS</u>		
<i>Haliaeetus leucocephalus</i>	Bald eagle	LT
<u>INVERTEBRATES</u>		
<i>Alasmidonta heterodon</i> ¹	Dwarf wedgemussel	LE
<u>VASCULAR PLANTS</u>		
<i>Aeschynomene virginica</i> ¹	Sensitive joint-vetch	LT
<i>Isotria medeoloides</i>	Small whorled pogonia	LT
<i>Ptilimnium nodosum</i> ¹	Harperella	LE

Species of Concern (No official Federal status)

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>GLOBAL RANK</u>
<u>INVERTEBRATES</u>		
<i>Alasmidonta varicosa</i>	Brook floater	G3
<i>Elliptio lanceolata</i>	Yellow lance	G3
<i>Sigara depressa</i>	Virginia Piedmont water boatmen	G1G3
<i>Speyeria idalia</i>	Regal fritillary	G3
<u>VASCULAR PLANTS</u>		
<i>Agalinis auriculata</i>	Earleaf foxglove	G3
<i>Chamaecrista fasciculata</i> var. <i>macrosperma</i> ¹	Marsh senna	G5T2

¹This species has been documented in an adjacent county and may occur in this county.

January 2, 2004

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.

U.S. Fish & Wildlife Service

Bald Eagle

Haliaeetus leucocephalus



Description - The bald eagle occurs throughout the United States. It is a large bird-of-prey with dark brown plumage, a white head and tail, and a yellow bill, feet, and eyes. Juvenile eagles generally have a dark brown body, sometimes with white patches on the tail, belly, and underwings. The head and tail become completely white when full adult plumage is reached at four to five years of age.

Life History - The majority of Virginia's eagle population is found on the coastal plain. The bald eagle breeding season begins in mid-November when large nests are built (or the previous year's nest is repaired) usually in loblolly pine trees that are in close proximity to water. Eagles lay one to three eggs between mid-January and late March. In March, most eggs hatch and by June or July most young have fledged. However, the young will continue to use the nest for several weeks. In Virginia, during the summer and winter months, juvenile and nonbreeding adult eagles congregate along large rivers in areas with abundant food and little human

disturbance. During the day, these eagles feed and perch along the river shoreline. In late afternoon, they move inland to roost either singly or communally. Roosts are typically located away from human disturbance and near water and a food source. Bald eagles feed primarily on fish, but will also eat carrion, waterfowl, small mammals, snakes, and turtles.

Conservation - The bald eagle was federally listed as an endangered species in the Chesapeake Bay Region on March 11, 1967. On July 12, 1995, the bald eagle was reclassified to threatened throughout the 48 lower states because the population had increased due to the banning persistent pesticides, habitat protection, and other recovery activities. On July 6, 1999, the bald eagle was proposed for removal from the list of endangered and threatened wildlife in the lower 48 states. This action was proposed because the available data indicated that this species has recovered. The recovery is due in part to habitat protection and management actions initiated under the Endangered Species Act. It is also due to reduction in levels of persistent pesticides occurring in the environment. If and when the eagle is no longer protected by the Endangered Species Act, it will still be protected by the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and state laws. Until the eagle is officially delisted, it will continue to receive protection pursuant to the Endangered Species Act. Bald eagles in the Chesapeake Bay are increasing. However, habitat destruction through urban and residential development and human disturbance in nesting, roosting, and

foraging habitats continue to be a threat.

What You Can Do To Help - If you

know of a bald eagle nest on or near property proposed for clearing, development, or logging please contact one of the following agencies for assistance:

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230
(804) 367-1000

U. S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694

References

U.S. Fish and Wildlife Service. 1990. Chesapeake Bay Region bald eagle recovery plan: first revision. Newton Corner, Massachusetts.

U.S. Fish and Wildlife Service. 1999. Proposed rule to remove the bald eagle in the lower 48 states from the list of endangered and threatened wildlife. Federal Register 64(128): 36453-36464.

Watts, B.D., K.W. Cline, and M.A. Byrd. 1994. The bald eagle in Virginia: An information booklet for land planners. The Center for Conservation Biology, College of William and Mary, Williamsburg, Virginia.



U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>
August 1999

disturbance. During the day, these eagles feed and perch along the river

U.S. Fish & Wildlife Service

Tennessee River Basin Freshwater Mussels



H. Woodcut

Description - There are approximately 300 North American freshwater mussel species in the United States. About twelve percent of the known species have already gone extinct. One waterway with numerous mussel species is the Tennessee River Basin. The major rivers in Virginia that flow into the Tennessee River are the Clinch, Holston, and Powell. The following federally listed endangered freshwater mussels inhabit the Tennessee River Basin in Virginia:

Appalachian monkeyface
pearlmyssel (*Quadrula sparsa*)
Birdwing pearlmyssel (*Conradilla
coelata*)
Cracking pearlmyssel (*Hemistena
lata*)
Cumberland bean (*Villosa trabalis*)
Cumberlandian combshell
(*Epioblasma brevidens*)
Cumberland monkeyface
pearlmyssel (*Quadrula
intermedia*)
Drumhead pearlmyssel (*Dreissena
drumhead*)



U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>

October 2000

Fanshell (*Cyprina stegosa*)
Fine-rayed pigtoe (*Fusconia
canaliculata*)
Green-blossom pearlmyssel
(*Epioblasma lurida
gubernaculum*)
Little-wing pearlmyssel (*Pegias
fabula*)
Oyster mussel (*Epioblasma
virescens*)
Pink mucket pearlmyssel (*Lampsilla
abrupta*)
Purple bean (*Villosa perpurpurea*)
Rough pigtoe (*Pleurobema pium*)
Rough rabbitfoot (*Quadrula
cylindrica strigillata*)
Shiny pigtoe (*Fusconia car*)
Tan riffleshell (*Epioblasma walkeri*)

Life History - These endangered freshwater mussels are relatively immobile and require clean, free-flowing water in small to large rivers with sand and gravel bottoms. These mussels are filter feeders; they feed on plankton collected from water passed over their gills. Reproduction occurs sexually. Females carry eggs in their gills. During spawning, the male releases sperm into the water column and the sperm is taken into the female through the gills. The resulting larvae (known as glochidia) are released from the female into the water column and must attach to a fish host to survive. While attached to the fish host, development of the glochidia continues. Once metamorphosis is complete, the juvenile mussel drops off the fish host and continues to develop on the stream bottom. Known fish hosts for

these species include: banded darter (*Etheostoma zonale*), banded sculpin (*Cottus caroliniae*), bigeye chub (*Hypentelium nigricans*), central stoneroller (*Campestenoma anomalum*), dusky darter (*Percina sciera*), fantail darter (*Etheostoma flabellare*), fathead minnow (*Pimephales promelas*), freshwater drum (*Aplodinotus grunniens*), greenside darter (*Etheostoma blennioides*), largemouth bass (*Micropterus salmoides*), logperch (*Percina caprodes*), mottled sculpin (*Cottus bairdi*), redline darter (*Etheostoma rufiguttum*), river chub (*Nocomis biguttatus*), sauger (*Stizostedion canadense*), smallmouth bass (*Micropterus dolomieu*), spottin shiner (*Cyprinella spiloptera*), spotted darter (*Etheostoma maculatum*), spotted bass (*Micropterus punctulatus*), telescope shiner (*Notropis telescopus*), Tennessee shiner (*Notropis leuciodus*), Tennessee snubnose darter (*Etheostoma simumum*), walleye (*Stizostedion vitreum*), white shiner (*Lucania albolineata*), whitetail shiner (*Cyprinella galactura*), and wounded darter (*Etheostoma vulneratum*). Fish hosts have yet to be determined for many freshwater mussel species. These fish require the same habitat as the mussels. If the fish and their habitat disappear, the mussels will also disappear.

Conservation - More than 70% of freshwater mussels in the United States are in need of protection. The main causes of decline of these species are siltation, impoundment of rivers, water pollution, and invasion of non-native species. Siltation and

sedimentation from farming, mining, and other land-use practices also adversely affect mussels. Excessive siltation degrades water quality and substrate, clogs gills, reduces feeding efficiency and growth, and can eventually smother mussels if sufficient accumulation occurs. In most instances, the combined effects of numerous contaminants and induced physiological stresses are the ultimate cause for mortality in a population of mussels.

What You Can Do To Help - If you reside on property that borders a stream or other waterway, avoid using chemicals or fertilizers. To help control erosion and runoff, maintain a buffer of natural vegetation along streambanks. Install fencing to prevent livestock from entering the stream to reduce trampling of mussels, siltation, and input of waste products. Protecting

water quality is the most effective way to conserve mussels.

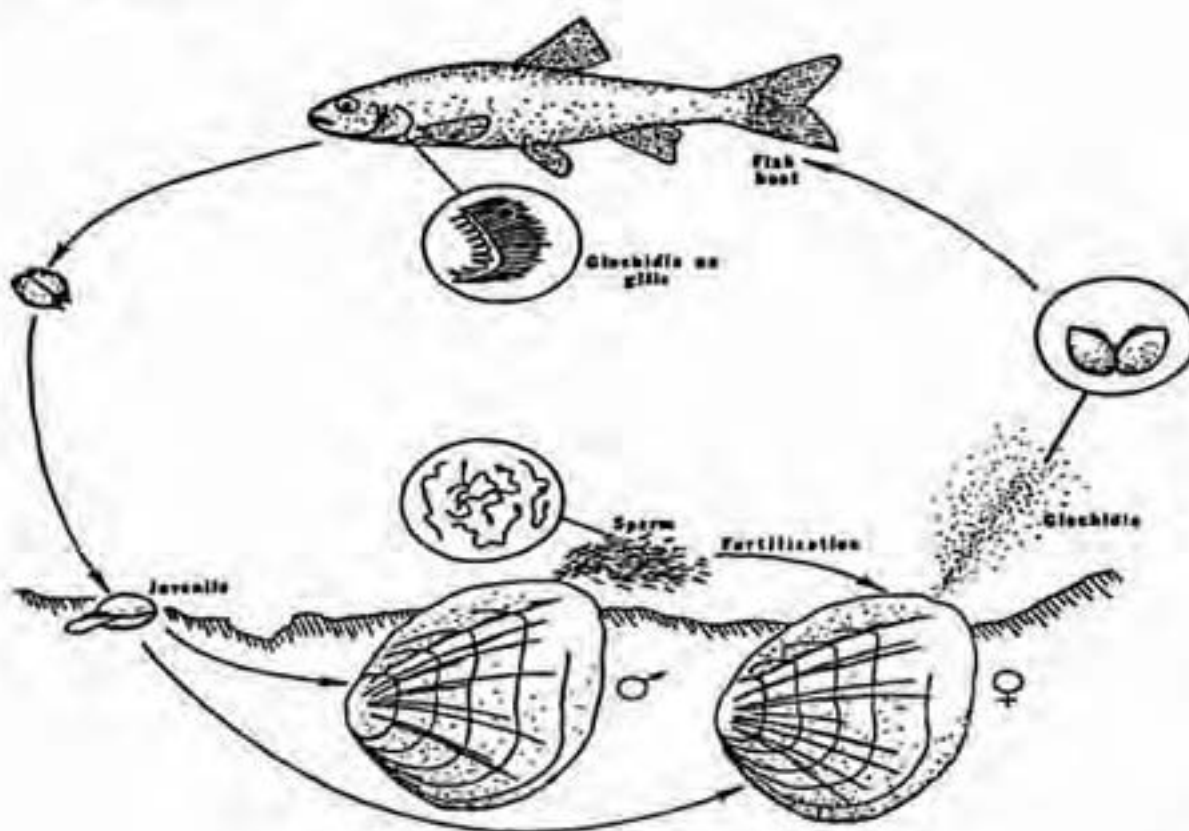
References

Ellis, M.M. 1931. Some factors affecting the replacement of the commercial fresh-water mussels. U.S. Bureau of Fisheries Economic Circular 7:1-10.

Marking, L.L. and T.D. Bills. 1979. Acute effects of silt and sand sedimentation of freshwater mussels. Pages 204-211 in J.L. Rasmussen, ed. Proceedings of the Upper Mississippi River Conservation Committee Symposium on Upper Mississippi River bivalve mollusks. Upper Mississippi River Conservation Committee, Rock Island, Illinois.

White, C.P. 1982. Endangered and threatened wildlife of the Chesapeake Bay Region: Delaware, Maryland, and Virginia. Tidewater Publishers, Centerville, Maryland.

Yeager, B.L. and C.F. Saylor. 1995. Fish hosts for four species of freshwater mussels (Pelecypoda: Unionidae) in the Upper Tennessee River Drainage. American Midland Naturalist 133: 1-6.



U.S. Fish & Wildlife Service

Sensitive Joint-Vetch

Aeschynomene virginica



Description - The sensitive joint-vetch is an annual legume native to the eastern United States.

Populations currently exist in Maryland, New Jersey, North Carolina, and Virginia. The historical range for the species extended to Delaware and Pennsylvania. In Virginia, populations are found along the Potomac, Mattaponi, Pamunkey, Rappahannock, Chickahominy, and James Rivers and their tributaries. This plant usually attains a height of three to six feet in a single growing season, but may grow as tall as eight feet. The flowers are yellow, streaked with red and the fruit is a pod, turning dark brown when ripe.

Life History - The joint-vetch occurs in fresh to slightly brackish tidal river systems, within the intertidal zone where populations are flooded twice daily. It typically occurs at the outer fringe of marshes or shores; its presence in marsh interiors may be a result of nutrient deficiencies, ice scouring, or muskrat

herbivory. The sensitive joint-vetch is found in localities where plant diversity is high and annual species are prevalent. Bare to sparsely vegetated substrates appear to be a habitat feature of critical importance for establishment and growth of this species. Plants flower from July through September and into October in some years. Fruits are produced from July through late October, concurrent with flowering.

Conservation - The sensitive joint-vetch was federally listed as a threatened species on June 19, 1992. Threats to the species include sedimentation, competition from non-native plant species, dams, dredging, filling, recreational activities, shoreline stabilization, shoreline structures, road and bridge construction, commercial and residential development, water withdrawal projects, water quality degradation, agricultural practices, introduced pest species, mining, timber harvest, over-visitation, declines in muskrat populations, rise in sea level (this may also be a result of natural cycles), and collection. Natural threats are often identified with disturbances, such as wave and ice action associated with severe storm events, competition, herbivory, channel migration, sea level rise and natural sedimentation processes. Adequate habitat conservation for this species will only be achieved through on-site protection of marshes supporting plant populations when coupled with protection of the natural ecological processes responsible for creating and maintaining habitat for

the sensitive joint-vetch.

What You Can Do To Help

Avoid the use of herbicides in or near waterways. If you are planning construction or stabilization activities along the shoreline in one of the counties indicated on the attached map, please contact the U.S. Fish and Wildlife Service.

References

- Davison, S.E. and L.P. Bruderle. 1984. Element stewardship abstract for *Aeschynomene virginica* - sensitive joint vetch. The Nature Conservancy, Arlington, Virginia.
- Herslmer, C. and J.E. Perry. 1987. Population status of potentially threatened vascular plants from coastal plain tidal rivers in Virginia. College of William and Mary, Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Rouse, G.D. 1994. Sensitive joint-vetch life history and habitat study, 1993 Field Season, Mattaponi and Rappahannock River systems, Virginia. Schnabel Environmental Services, Richmond, Virginia.
- U.S. Fish and Wildlife Service. 1995. Sensitive joint-vetch (*Aeschynomene virginica*) recovery plan. Hadley, Massachusetts.



U.S. Fish and Wildlife Service
Virginia Field Office
6609 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>
August 1999

U.S. Fish & Wildlife Service

Small Whorled Pogonia

Isotria medeoloides



Description - The small whorled pogonia is a herbaceous perennial orchid. It has a widely scattered distribution in the eastern United States along the Atlantic coast from Maine to Georgia with outlying occurrences in the midwest and Canada. This species has pale green, elliptical leaves, usually five or six, that grow in a single whorl at the top of a hairless, grayish-green stem. The one or two flowers per plant are yellowish-green, unscented, and form in the center of the whorl.

Life History - In Virginia, the small whorled pogonia is found in ordinary looking third-growth upland forests with an open understory and a closed canopy where the topography is typically moderately sloping or almost level. The plants are usually associated with decaying vegetative matter such as fallen trunks and limbs, leaf litter, bark, and tree roots. The pogonia is found in soils that are acidic sandy loams with low nutrient

content. The flowers appear in late April to mid-May. The small whorled pogonia reproduces primarily through self-pollination and occasionally vegetatively. It is often confused with the Indian cucumber-root (*Medenia virginiana*) and the large whorled pogonia (*Isotria verticillata*). The Indian cucumber-root has deep green leaves with a stem that is thin, hairy, and wiry. The large whorled pogonia has a reddish-purple stem and dark green leaves; its flower is reddish-purple.

Conservation - The small whorled pogonia was federally listed as an endangered species on September 10, 1982. It was reclassified as threatened on November 7, 1994. This was possible because at the time of reclassification 61% of the viable populations had been protected. The small whorled pogonia and its habitat continue to be threatened, directly and indirectly, by residential and commercial development. The upland habitat where it is found is seldom protected by federal or state laws unless it occurs on federally-owned property. Without voluntary landowner protection many pogonia populations have been and will be destroyed. Other threats to this species are collection by plant enthusiasts and browsing by white-tailed deer and invertebrates.

What You Can Do To Help - If you find a plant that appears to be the small whorled pogonia, take note of the location and photograph the plant, if possible. Please do not remove the plant!

Contact one of the following agencies for assistance:

Virginia Department of Agriculture
and Consumer Services
Office of Plant Protection
P.O. Box 1163
Richmond, Virginia 23209
(804) 786-3515

Virginia Department of
Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 3rd Floor
Richmond, Virginia 23219
(804) 786-7951

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694

References

- U.S. Fish and Wildlife Service.
1992. Small whorled pogonia
(*Isotria medeoloides*) recovery plan,
first revision. Newton Corner,
Massachusetts.
- Ware, D.M.E. 1991. Small whorled
pogonia. Pages 95-97 in K.
Terwilliger, ed. Virginia's
Endangered Species, Proceedings of
a Symposium. McDonald and
Woodward Publishing Company,
Blacksburg, Virginia.



U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694
<http://www.fws.gov>
August 1999

APPENDIX F: MANASSAS NATIONAL BATTLEFIELD PARK BYPASS ALTERNATIVE ROUTES

A wide range of improvement alternatives was considered for the Bypass Study. The alternatives were identified and evaluated through an iterative screening process in cooperation with citizens, localities, and State and federal agencies. Except for the no-action alternative, alternatives deemed not reasonably capable of meeting the identified needs for the study were eliminated from further consideration. While required by National Environmental Policy Act regulations, the no-action alternative was also studied in detail

because it serves as a baseline for comparing the other alternatives.

The range of alternatives considered in detail encompasses the No-Action Alternative, and various build alternatives. The alternatives considered in detail are the No-Action Alternative (roads would remain open in the Park), and Candidate Build Alternatives A-G (Bypass Study, 2-1). Map A-5 shows these build alternatives, including the preferred alternative — alternative D.



MAP F-1: BYPASS STUDY ALTERNATIVE

SELECTED BIBLIOGRAPHY

- Blake, Jerrell and Bradley Bowden
1999 "Phase I Archeological Survey Along Two Proposed View-shed Buffer Corridors, Manassas National Battlefield Park." Prepared by Gray & Pape, Inc. for Virginia Power.
- Bureau of Economic Analysis, U.S. Department of Commerce
1997 Information extracted from Regional Accounts Data. Available on the internet at <http://www.bea.doc.gov/bea/regional/data.htm>
- Census Bureau, U.S Department of Commerce
1996 Information extracted from the U.S. Census Bureau's website. Available on the Internet at <http://www.census.gov>
- Cromwell, James R., Jr., and Robert McIver
1985 "A Phase I Evaluation of Three Streams in Prince William County, Virginia: Broad Run, Bull Run, and Quantico Creek." James Madison University, Archeological Research Center.
- Davis, William C.
1995 *The First Battle of Manassas*. Philadelphia, PA: Eastern National Park and Monument Association.
- DeGraaf, Richard M. and John H. Rappole
1995 *Neotropical Migratory Birds: Natural History, Distribution, and Population Change*. Ithaca, N.Y.: Comstock Publishing.
- Elder, J.
1989 "Soil Survey of Prince William County, Virginia." USDA Soil Conservation Service, Washington, D.C.
- Fairfax County Economic Development Authority
1996 "Fairfax County Characteristics." Vienna, VA.
1998 "Fairfax County Profile." Vienna, VA.
- Finch, Deborah M. and Stangel, Peter W., eds.
1993 "Status and Management of Neotropical Migratory Birds, General Technical Report RM-229." Fort Collins, CO: U.S. Department of Agriculture, Forest Service.
- Fleming, G.P. and J.T. Weber.
2003 "Inventory, Classification, and Map of Forested Ecological Communities at Manassas National Battlefield Park, Virginia." Natural Heritage Tech. Rep. 03-7. Richmond, Virginia: Virginia Department of Conservation and Recreation, Division of Natural Heritage. Unpublished report submitted to the National Park Service.
- Gaff, Alan D.
1988 *Brave Men's Tears: The Iron Brigade at Brawner Farm*. Dayton, OH: Morningside House, Inc.
- Galke, L., ed.
1992 "Cultural Resource Survey and Inventory of a War-Torn Landscape: The Stuart's Hill Tract, Manassas National Battlefield Park, Virginia." Occasional Report No. 7. Washington, D.C.: Regional Archaeology Program, National Capital Region, National Park Service.

Gathering of Battlefield Managers

- 2001 "Holding the High Ground: Principles and Strategies for Managing and Interpreting Civil War Battlefield Landscapes." Conference Proceedings. Nashville, TN, August 24-7, 1998; and Richmond, VA, March 27-9, 2001.

Greene, Wilson

- 1995 *The Second Battle of Manassas*. Philadelphia, PA: Eastern National Park and Monument Association.

Hennessy, John

- 1989 *The First Battle of Manassas: An End to Innocence, July 18-21, 1861*. Lynchburg, VA: H. E. Howard, Inc.
- 1993 *Return to Bull Run: The Campaign and Battle of Second Manassas*. New York: Simon & Schuster.

Johnson, T. G.

- 1992 "Forest Statistics for Virginia, 1992." *Resource Bulletin SE-131*, Southeastern Forest Experiment Station, U. S. Department of Agriculture, Forest Service, Asheville, NC.

Kelly, Dennis

- 1983 *The Battle and Campaign, Second Manassas*. Philadelphia, PA: Eastern National Park and Monument Association.

Little, C. and D. Muench.

- 1995 *The Smithsonian Book of National Parks*. Washington, D.C.: Smithsonian Books.

Loomis, D. T., and K. E. Heffernan.

- 2003 "Classification and Mapping of Wetlands at Manassas National Battlefield Park, Virginia, Brawner Farm and Matthews

Hill Tracts." Natural Heritage Technical Report 03-21. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Unpublished report submitted to Manassas National Battlefield Park.

Loudoun County Department of Economic Development

"Loudoun County, Virginia Summary Facts." Leesburg, VA

"Loudoun County Economic Indicators." Leesburg, VA

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

1961a "Historic Structures Report, Architectural Data, Preparatory to the Restoration of the Stone House." Manassas, Virginia: prepared by Orville W. Carroll, Manassas National Battlefield Park.

1961b "The Stone House, Embattled Landmark of Bull Run." Manassas, Virginia: prepared by Francis F. Wilshin, Manassas National Battlefield Park.

1962 "Historic Structures Report, Dogan House, Architectural Data Section." Manassas, Virginia: prepared by Orville W. Carroll, Manassas National Battlefield Park.

1963 "Historic Structures Report, Stone Bridge, Architectural Data Section." Manassas, Virginia: prepared by Orville W. Carroll, Manassas National Battlefield Park.

1981 "Troop Movement Maps, Battle of First Manassas and Engagement at Blackburn's Ford, July 18 and 21, 1861." Denver,

- Colorado: prepared by Edwin C. Bearss National Park Service, Denver Service Center, National Capital Team.
- 1982a *Draft General Management Plan/Environmental Assessment, Manassas National Battlefield Park, Virginia.* Manassas, Virginia: National Park Service.
- 1982b “Manassas Historic Sites Survey.” Denver, Colorado: prepared by Thomas E. McGarry, National Park Service, Denver Service Center, National Capital Team.
- 1983a *General Management Plan, Manassas National Battlefield Park, Virginia.* Manassas, Virginia: National Park Service.
- 1983b *Land Protection Plan,* Manassas National Battlefield Park, Virginia. Manassas, Virginia: National Park Service.
- 1984 *Museum Handbook, Part II: Museum Records.* Washington, D.C.: National Park Service.
- 1985 “Historical Report on the Troop Movements for the Second Battle of Manassas, August 28 Through August 30, 1862.” Denver, Colorado: prepared by John Hennessy, National Park Service, Denver Service Center, Northeast Team.
- 1986 “An Archeological Survey of Selected Portions of Manassas National Battlefield Park.” Denver, Colorado: prepared by Thomas E. McGarry and Charles F. Bohannon, National Park Service, Denver Service Center.
- 1989a “An Archeological Assessment of the Brawner Farm House.” Unpublished report by Kathleen A. Parker. On file at Manassas National Battlefield Park, Manassas, Virginia.
- 1989b *Draft Development Concept Plan, Environmental Assessment, Brawner Farm Site, Manassas National Battlefield Park.* Denver, Colorado: National Park Service, Denver Service Center.
- 1989c “Statement for Management, Manassas National Battlefield Park.” On file at Manassas National Battlefield Park, Manassas, Virginia.
- 1990 “Portici: Portrait of a Middling Plantation in Piedmont Virginia. Occasional Report No. 3.” Washington, D.C.: prepared by Kathleen A. Parker and Jacqueline L. Hernigle, National Park Service, National Capital Region.
- 1991a “A Cultural Landscape Restoration Report for the Stuart’s Hill Tract, Manassas National Battlefield Park.” Prepared by Brian Morris, Ian J.W. Firth, and Susan P. Bratton. On file at Manassas National Battlefield Park, Manassas, Virginia.
- 1991b “List of Classified Structures, Manassas National Battlefield Park.”
- 1994a *Amendment to General Management Plan Environmental Assessment for Power Line Relocation, Brawner Farm and Stuart’s Hill.* On file at Manassas National Battlefield Park, Manassas, Virginia, May.
- 1994b “Interpretive Prospectus: A Plan for the Interpretation of Manassas National Battlefield Park.” Harpers Ferry, West Virginia: National Park Service,

- Harpers Ferry Center,
Department of Interpretive
Planning.
- 1995a “Architectural Fabric
Investigation and
Documentation of the Robinson
House, Washington, D.C..”
Prepared by Kenneth Sandri,
National Park Service, National
Capital Region.
- 1995b *Battling for Manassas: The Fifty-
Year Preservation Struggle at
Manassas National Battlefield
Park.* Prepared by Joan M.
Zenzen, History Associates Inc.
- 1995c “National Capital Area
Archeological Overview and
Survey Plan.” Prepared by
Barbara J. Little. On file at
Manassas National Battlefield
Park, Manassas, Virginia.
- 1996a “Cultural Landscape Inventory,
Northeast Quadrant, Manassas
National Battlefield Park.” On
file at Manassas National
Battlefield Park, Manassas,
Virginia.
- 1996b “Cultural Landscape Inventory,
Northwest Quadrant, Manassas
National Battlefield Park.” On
file at Manassas National
Battlefield Park, Manassas,
Virginia.
- 1996c “Cultural Landscape Inventory,
Southern Quadrant, Manassas
National Battlefield Park.” On
file at Manassas National
Battlefield Park, Manassas,
Virginia.
- 1996d “Transportation Study, Manassas
National Battlefield Park.”
Denver, Colorado: prepared by
- Robert Peccia & Associates, Inc.
for National Park Service,
Denver Service Center.
- 1996e “Traffic Noise and Vibration
Assessment, Manassas National
Battlefield Park.” Denver,
Colorado: prepared by Robert
Peccia & Associates, Inc. for
National Park Service, Denver
Service Center.
- 1997a *Cultural Resources Management
Guidelines.* Release No. 5, 1997.
- 1997b “Monthly Public Use Report.”
Manassas Battlefield Park.
- 1997c “Baseline Water Quality Data
Inventory and Analysis Report.”
On file at Manassas National
Battlefield Park, Manassas,
Virginia.
- 1998a “Overview of a Changing
Landscape: An Archeological and
Historical Investigation of Sudley
Post Office (44PW294).”
Manassas, Virginia: prepared by
Matthew B. Reeves Manassas
National Battlefield Park, On file
at Manassas National Battlefield
Park.
- 1998b “Information from the Public
Use Statistics Program Center.”
Washington, D.C.
- 1998c “Information from the Denver
Service Center, Resource
Planning.”
- 2000a “Phase I and II Cultural Resource
Investigation and Site
Examination of Proposed
Intersection Improvements at
Routes 29 and 234.” Washington,
D.C.: prepared by Matthew
Reeves, National Park Service,
National Capital Region.

- | | | | |
|-------|---|-------|--|
| 2000b | “Pittsylvania: A Carter Family Plantation in the Virginia Piedmont.” Washington, D.C.: prepared by Joy Beasley, National Park Service, National Capital Region. | | National Park Service, National Capital Region. |
| 2000c | “Sudley Post Office (Thornberry House): Physical History and Condition Assessment, draft report.” Washington, D.C.: prepared by architrave p.c. architects for National Park Service, National Capital Region. | 2001e | “Dropped and Fired: Archeological Patterns of Militaria from Two Civil War Battles.” Washington, D.C.: prepared by Matthew B. Reeves, National Park Service, National Capital Region. |
| 2001a | “An Archeological and Historical Investigation of Stone House (44PW298), Manassas National Battlefield Park. “Washington, D.C.: edited by Matthew B. Reeves, National Park Service, National Capital Region. | 2001f | “No Maneuvering and Very Little Tactics: Archeology and the Battle of Brawner Farm (44PW452).” Washington, D.C.: prepared by Stephen R. Potter, et. al., National Park Service, National Capital Region. |
| 2001b | “Archeological Investigation of the Robinson House Site 44PW288: A Free African-American Domestic Site Occupied from the 1840s to 1936.” Washington, D.C.: edited by Mia T. Parsons, National Park Service, National Capital Region. | 2001g | “Holding the High Ground: Principles and Strategies for Managing and Interpreting Civil War Battlefield Landscapes.” Proceedings of the Gatherings of Battlefield Managers, Nashville, Tennessee, August 24-27, 1998, and Richmond, Virginia, March 27-29, 2001. Washington: National Park Service, U.S. Department of the Interior. |
| 2001c | “Archeological Survey of Historic Woodlot and Riparian Forest, Manassas National Battlefield Park.” Harpers Ferry, West Virginia: prepared by Andrew Lee and Mia Parsons, Harpers Ferry National Historical Park, Archeology Program. | 2002a | “Brawner Farm House: Historic Structure Report, 2002 Addendum.” National Park Service, Historic Preservation Training Center. |
| 2001d | “Archeology at the Confederate Winter Camp Site, Manassas National Battlefield Park.” Washington, D.C.: prepared by John Bedell and Eric Griffiths, Louis Berger Group, Inc., for | 2002b | “Phase I and II Cultural Resource Investigation of Proposed Federal Highway Improvements at Parking Areas and Access Roads.” Washington, D.C.: prepared by Matthew Reeves, et. al., National Park Service, National Capital Region. |
| | | 2003a | “Archeological Resource Study and Clearance for the Discovery Center Project at the Henry |

- House, Manassas National Battlefield Park." Harpers Ferry, West Virginia: edited by Mia T. Parsons and John W. Ravenhorst, Harpers Ferry National Historical Park, Archeology Program.
- 2003b *Coming to Manassas: Peace, War, and the Making of a Virginia Community. A Historic Resource Study for Manassas National Battlefield Park.* Prepared by Linda Sargent Wood, American Public History Laboratory.
- 2003c "Henry House: Historic Structure Report." National Park Service, Historic Preservation Training Center.
- 2004a "Browner Farm, Manassas National Battlefield Park, Cultural Landscape Report, Final Draft." Washington, D.C.: prepared by Judith Earley and Kay Fanning, National Park Service, National Capital Region.
- 2004b *National Register of Historic Places: Manassas Battlefield Historic District, Manassas National Battlefield Park, Virginia.*
- 2004c "Strategic Plan for Manassas National Battlefield Park." Available online at <http://www.nps.gov/mana/administration/GPRA%202005/gpra2005.pdf>
- Neville, Ashley, Joseph S. White III, and Eric Voigt
- 1995 "Phase I Cultural Resource Investigations of the Manassas Battlefield Park Transmission Line Corridor Relocation Project." Prepared by Gray & Pape, Inc. for Virginia Power.
- Northern Virginia Economic Development Coalition and the Northern Virginia Planning District Commission
- 1997 *Northern Virginia, An Economic Profile.*
- Robert Peccia & Associates, Inc.
- 1996 *Manassas National Battlefield Park, Transportation Study.* Helena, Montana.
- Rossell, C.R. Jr., B. Gorsira, and S. Patch.
- 2004 "Effects of White-Tailed Deer on Vegetation Structure and Woody Seedling Composition in Three Forest Types on the Piedmont Plateau." Unpublished report submitted to Manassas National Battlefield Park.
- U.S. Department of the Interior
- 1995a *Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards.* Washington, D.C.
- 1995b *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.* Washington, D.C.
- 1996 *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes.* Washington, D.C.
- U.S. Department of Transportation, Federal Highway Administration

- 2003 “Manassas National Battlefield Park Bypass Study, Existing Conditions.” Washington, D.C. Available online at <http://www.battlefieldbypass.com/resources.htm>
- 2004 *Manassas National Battlefield Park Bypass Study, Draft Environmental Impact Statement.* Washington, D.C. Available online at
- 1998 “A Natural Heritage Inventory of Manassas National Battlefield Park.” Prepared for the National Park Service, Natural Heritage Technical Report 98-7.
- Virginia Department of Conservation and Recreation, Division of Natural Heritage

LIST OF PREPARERS

NATIONAL PARK SERVICE

Pam West, Director, Museum Resource Center

Warren Brown, Program Manager, Park
Planning & Special Studies

Manassas National Battlefield Park

Robert K. Sutton, Superintendent,

Sharon Cleary, Acting Assistant
Superintendent

Ray Brown, Cultural Resource Program
Manager

Brian Gorsira, Natural Resource Program
Manager

National Capital Region

Patrick Gregerson, Chief of Planning

Denver Service Center

Erin Flanagan, Community Planner, Project
Manager

John Paige, Cultural Resource Specialist,
Project Manager (former)

Larry Van Horn, Cultural Resource Specialist

Linda Ray, Supervisor, Visual Information
Specialist

Jim Corbett, Visual Information Specialist

Sandy Schuster, Editor

CONSULTANTS

Greenhorne & O'Mara
9001 Edmonston Road
Greenbelt, MD 20770

HNTB Architects
421 7th Street, NW
Washington, DC 20004

INDEX

- air quality, 10, 22, 73, 80, 107–10
- alternative transportation system, 46, 62
- American Indian resources, 12, 26
- archeological resources, 11, 68, 88
 - African American resources, 26
- Arlington County, 94
- bicycles and bicycle routes, 17, 34, 36, 45, 53, 62, 140, 162, 163
- Brawner Farm, 38, 61, 72, 87, 161, 169, 184
- Buck Hill, 175, 177, 181, 184
- Bull Run, 25, 52, 66, 81, 84, 85, 88, 117, 123, 124, 153, 169, 181
 - highway bridge, new, 23, 56, 62, 124, 141, 155
 - highway bridge, removal, 23, 45, 53, 62, 123, 139, 141, 143, 155
- Bypass Study, 6, 15, 17, 43, 45, 53, 63, 94, 105, 107, 108, 109, 110, 111, 112, 115, 138, 141, 143, 160
 - Existing Conditions Report, 79, 91, 138
- carrying capacity, 19, 18–20, 140
- Chinn Ridge, 52, 61, 169, 181
- Clean Air Act, 8, 10, 22, 80
- controlled access, 23, 45, 55, 62, 68, 69, 74, 113, 110–13, 138–41, 142, 144, 152, 153, 162, 163
- Conway Robinson Memorial State Forest, 96
- Cundiff, 52, 170, 184
- Deep Cut, 52, 61, 179, 184
- Dogan
 - Dogan Ridge, 52, 170, 181, 184
 - John Dogan House, 43, 87, 171
 - Lucinda Dogan House, 17, 43, 52, 56, 61, 72, 87, 161, 163, 171, 184
- Endangered Species Act, 8, 23
- Environmental Justice, 13, 26
- Fairfax County, 3, 84, 94, 105, 160
- Fairfax, City of, 94
- Falls Church, City of, 94
- farmland
 - prime farmland soils, 25
- Fauquier County, 15
- floodplains, 11, 23, 73, 84, 85, 122–23, 123, 124
- Groveton, 61, 171, 184
- Groveton Confederate Cemetery, 56, 88, 172
- Haymarket, Town of, 15
- Hazel Plain, 169
- Henry Hill, 38, 46, 52, 87, 172, 181
- Henry House, 43, 72, 87, 173, 181
- I-66, 3, 80, 91
- I-66 Study, 15, 105
- interpretation, 8, 12, 36, 70, 71
 - and the Preferred Alternative, 32
 - Cooperative Efforts*, 18
 - Interpretive Plan (Prospectus), 15
 - Interpretive Themes, 7
 - Second Manassas, 6
- Judith Carter Henry, 173
- landscape
 - battlefield, 4, 18, 37, 45, 88
 - cultural, 4, 7, 12, 33, 36, 43, 51, 61, 70, 72, 88
 - Cultural Landscape Report needed, 69
 - rehabilitation, 6, 25, 51, 55, 61, 65, 66, 68, 70, 72, 103, 109, 112, 117, 120, 121, 123, 124, 153, 161, 163
- List of Classified Structures, 17, 87
- Loudoun County, 15, 84, 94
- Loudoun County Parkway, 15, 105
- Management Prescriptions, 33, 36
- Management Zones, 37
 - subzones (Alternative A), 37–38
- Manassas National Battlefield Park
 - Amendments of 1988, 6, 9, 17, 37
- Manassas Park, City of, 15
- Manassas, City of, 15
- Matthews Hill, 52, 174, 181
- museum collections, 7, 12, 20
 - Civil War Museum, 56, 70
 - Museum Emergency Response Team (MERT), 93
- neotropical migratory birds, 81
- Pittsylvania, 175, 181
- Portici, 26, 175, 181
- Prince William County, 3, 15, 83, 84, 94, 139, 145, 160
- Robinson House, 26, 43, 52, 61, 72, 161, 173, 181
- safety, 15, 27, 36, 93, 138–41
 - and traffic volumes, 4, 6, 17, 43, 65, 153
- Smithsonian Institution (Udvar-Hazy Center)
 - partnership, 9, 106
- Stone Bridge, 19, 53, 61, 72, 88, 98, 140, 176, 181
- Stone House, 17, 43, 52, 62, 80, 87, 123, 124, 177
- Stuart's Hill, 43, 52, 178, 184
- Stuart's Hill Tract, 6, 9, 37, 70, 88, 106, 145
- Thornberry House, 17, 26, 43, 52, 56, 61, 72, 87, 123, 178, 181
- Threatened and Endangered Species, 10, 23, 73, 83–84, 120–22, 197

tour route

First and Second Manassas auto/bicycle
(Alternative C), 55, 71

First Manassas auto/bicycle tour(Alternative
B), 46, 71, 161

First Manassas, existing (hiking trail), 38

First Manassas, hiking (existing), 71

Second Manassas auto tour (existing), 16, 32,
38, 96, 147

*Second Manassas auto/bicycle
tour*(Alternative B), 51, 71, 148, 161

traffic, non-park related, 4, 6, 15, 16, 19, 22, 23,
32, 37, 43, 45, 55, 56, 62, 65, 66, 70, 74, 80, 91,
98, 105, 107, 108, 109, 111, 112, 113, 123,
138–41, 143, 147, 153, 160, 162

trails, 17, 36, 97

equestrian, 16, 51, 61, 97

First and Second Manassas (Alternative C),
61, 71, 163

First Manassas (Alternative B), 45, 46, 71,
161

First Manassas (existing), 38

loop trails, 38, 43, 45, 71

Second Manassas (Alternative B), 51, 71, 161

Second Manassas (existing), 43

sensitive species nearby, 120, 121

Tri-County Parkway Study, 15, 105

Unfinished Railroad, 43, 52, 54, 61, 63, 88, 179,
184

VA Route 234 Bypass North, 15, 106

Van Pelt, 177, 180, 181

visitor center

Henry Hill Visitor Center (existing), 16, 38,
45, 66, 70, 90, 97, 147, 151

Henry Hill Visitor Center (existing),
removal, 55, 56, 109, 113, 153, 154, 162

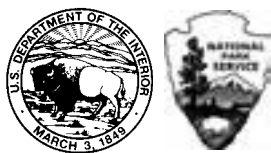
Stone Bridge Visitor Center (Alternative C),
55, 62, 66, 71, 109, 113, 117, 121, 123, 141,
153, 154, 162

Visitor Contact Station (Stuart's Hill), 20, 37,
43, 46, 52, 56, 66, 70, 72, 90, 97, 108, 115, 122,
147, 151, 161

wetlands, 11, 23, 73, 84, 85, 122–23

Stuart's Hill Tract, 9, 106

Youngs Branch, 84, 85, 169



As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.