



RESOURCE STEWARDSHIP STRATEGY SUMMARY

RICHMOND NATIONAL BATTLEFIELD PARK

VIRGINIA



CONTENTS

Introduction.....	3
What is a Resource Stewardship Strategy?	3
Purpose and Intent of the Summary	4
Brief Description of Richmond National Battlefield Park	5
The 1862 Seven Days Campaign.....	6
The 1864 Overland Campaign	6
The 1864–1865 Richmond-Petersburg Campaign	7
Chimborazo Hospital (NPS Medical Museum).....	7
Tredegar Iron Works (Park’s Main Visitor Center).....	7
Development of the Resource Stewardship Strategy for Richmond National Battlefield Park.....	9
Priority Resources and Their Components.....	11
Priority Resource Summaries	13
1862 and 1864–65 Battlefield Landscapes	13
History	15
Historic Buildings and Structures	15
Museum Collections.....	17
Archeological Resources.....	18
Historic Markers and Monuments.....	19
Natural Communities	20
Threatened and Endangered Species	22
Key Park Issues, Stressors, and Threats	23
High Priority Stewardship Goals and Activities.....	27
Ongoing Implementation of the Resource Stewardship Strategy	35
References	36
Contact Information.....	37

FIGURES

Figure 1: RSS Implementation Cycle.....	35
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TABLES

Table 1: Priority Resources and Their Components Targeted for Discussion during the RSS Process	12
Table 2: Key Resource Issues and Stressors	23
Table 3: Components, Long- and Short-Term Goals, and High Priority Activities	28

INTRODUCTION

WHAT IS A RESOURCE STEWARDSHIP STRATEGY?

A resource stewardship strategy (RSS) is a long-range dynamic planning tool for a national park unit to set specific goals and track progress in achieving its desired natural and cultural resource conditions. As part of a park's planning portfolio, the resource stewardship strategy serves as a bridge between the park's foundation document, other plans, and everyday management of its natural and cultural resources.

A resource stewardship strategy establishes a framework and a coordinated process for:

1. evaluating and summarizing existing information about park resources (including key issues, stressors, and threats),
2. using science and scholarship to establish stewardship goals for resources,
3. integrating natural and cultural resource management, and
4. determining the stewardship activities needed to achieve stewardship goals.

This framework provides a basis for informed strategic planning and sets the groundwork for preparing and implementing plans and activities to address resource management needs. Establishing this strategic approach increases management resiliency to staff turnover and guides the park unit to allocate funds and personnel to the most critical resource management needs.



PURPOSE AND INTENT OF THE SUMMARY

This summary document is intended to give readers an overview of the resource stewardship strategy for Richmond National Battlefield Park. For the sake of brevity, this unit of the national park system will be referred to as “the park” or RICH in this document. The document serves as a communication tool that complements the dynamic and evolving RSS desktop application actively used for resource management. This summary is not intended to describe all the elements in the resource stewardship strategy, but instead focuses on the components of the resource stewardship strategy that are essential for communicating the highest priority natural and cultural resource needs and management issues.

This summary document includes brief descriptions of the park’s priority resources and their components, some of the high priority stewardship strategies for these resources (which include stewardship goals and specific activities to fulfill the goals), and a list of key issues, stressors, and threats affecting park resources. The summary concludes by looking at ongoing implementation of the resource stewardship strategy.

It is important to remember that implementation of the resource stewardship strategy is an ongoing process, with updates and revisions occurring as resource and management conditions change and strategies are executed.



BRIEF DESCRIPTION OF RICHMOND NATIONAL BATTLEFIELD PARK

Richmond National Battlefield Park was initially authorized by an act of Congress on March 2, 1936 (49 Stat. 1155), to commemorate, interpret, and actively manage cultural and natural resources at American Civil War battlefields around Richmond, Virginia, the industrial and political capital of the Confederacy. Among the initial sites were Beaver Dam Creek, Cold Harbor, Gaines' Mill, Frayser's Farm (Glendale), Malvern Hill, Fort Harrison, and Drewry's Bluff. The Richmond National Battlefield Park Act of 2000 (114 Stat. 2373-2376) expanded the park's maximum boundary in and around the City of Richmond to 7,307 acres and specifically authorized the addition of the New Market Heights Battlefield unit. Consistent with the land acquisition authority granted under the 2000 act, the Totopotomoy Creek Battlefield unit and several other Civil War sites were added to the park's authorized boundary. As of 2016, the park has grown extensively from the 764 acres that existed in 1996, when the last general management plan was approved, to 3,632 acres spread over three counties.

The park also protects historic resources and performs visitor services at a collection of four additional sites that are associated with Civil War-era military, medical, and industrial operations in and around Richmond: Chickahominy Bluff, Chimborazo Hospital, Tredegar Iron Works, and Parker's Battery. Additionally, the 2000 legislation specified that the park establish a monument or memorial to honor the 14 Medal of Honor recipients from the United States Colored Troops who fought in the Battle of New Market Heights in eastern Henrico County.

The concentration of diverse Civil War resources found in the Richmond area is unparalleled. With carefully developed battlefield preservation commemoration and interpretive efforts including close cooperation with other public and private agencies preserving Civil War resources, Richmond National Battlefield Park has become a poignant and eloquent place where visitors can explore the meaning of the American Civil War and its relevance to the modern world.

Five key historical components of the park that highlight Richmond National Battlefield Park's significance are noted on the following pages.



The 1862 Seven Days Campaign

Numerous sites at Richmond National Battlefield Park tell the story of the Seven Days Campaign, which is increasingly recognized as a pivotal event of the Civil War. The first major effort against Richmond began in March 1862 when Gen. George B. McClellan began assembling the Union Army in southeastern Virginia in anticipation of advancing the troops up the peninsula directly toward Richmond. After a series of delays, including a momentous battle at Williamsburg, the Union Army reached the outskirts of Richmond in mid-May. In addition, the Union Navy failed to get past the defenses at Drewry's Bluff on May 15. A Confederate attack on May 31 produced the battle of Seven Pines but failed to alter the state of affairs. Robert E. Lee took command of the Army of Northern Virginia on June 1, 1862, and launched his own offensive on June 26. In a series of movements and battles, he seized the initiative and forced the Union Army to leave Richmond's outskirts. The primary battles occurred at Beaver Dam Creek, Gaines' Mill, Savage's Station, Frayser's Farm (Glendale), and Malvern Hill. This series of battles became known as The Seven Days Campaign, the decisive portion of the larger Peninsula Campaign, and four of the five battle sites (all but Savage's Station) are now a part of the park.

The 1864 Overland Campaign

Three of the park's battlefield sites tell the story of the Overland Campaign, the most desperate and costly campaign in American history up to that point. This campaign consisted of six consecutive weeks of combat that devastated the armies and everything in their path. After massive battles at the Wilderness and Spotsylvania between May 5 and May 20, 1864, both armies moved south toward Richmond. Lee made a stand at the North Anna River, 25 miles north of the capital. The Union Army, nominally commanded by Gen. George G. Meade but under the orders of Gen. Ulysses S. Grant, crossed the river and defeated Lee's left at Jericho Mill on May 23. Lee responded by creating a defensive position of peculiar shape, now known as his "inverted V" line. Its configuration put the Union in extreme peril, but the battle ended without either side delivering a major blow. Grant marched east, crossed the Pamunkey River, and approached Totopotomoy Creek on May 28–29. Lee resisted him there, which sparked further fighting up and down the creek corridor. By June 1, most of both armies shifted toward Cold Harbor. The heaviest fighting since Spotsylvania occurred on June 1 and June 3 across a front that stretched for seven miles. Static warfare followed until the Federals marched away on the evening of June 12 and made for the James River and ultimately Petersburg. Precisely one-half of the Overland Campaign occurred in the North Anna-Totopotomoy-Cold Harbor sequence outside Richmond. These three sites are now a part of the park.

The 1864–1865 Richmond-Petersburg Campaign

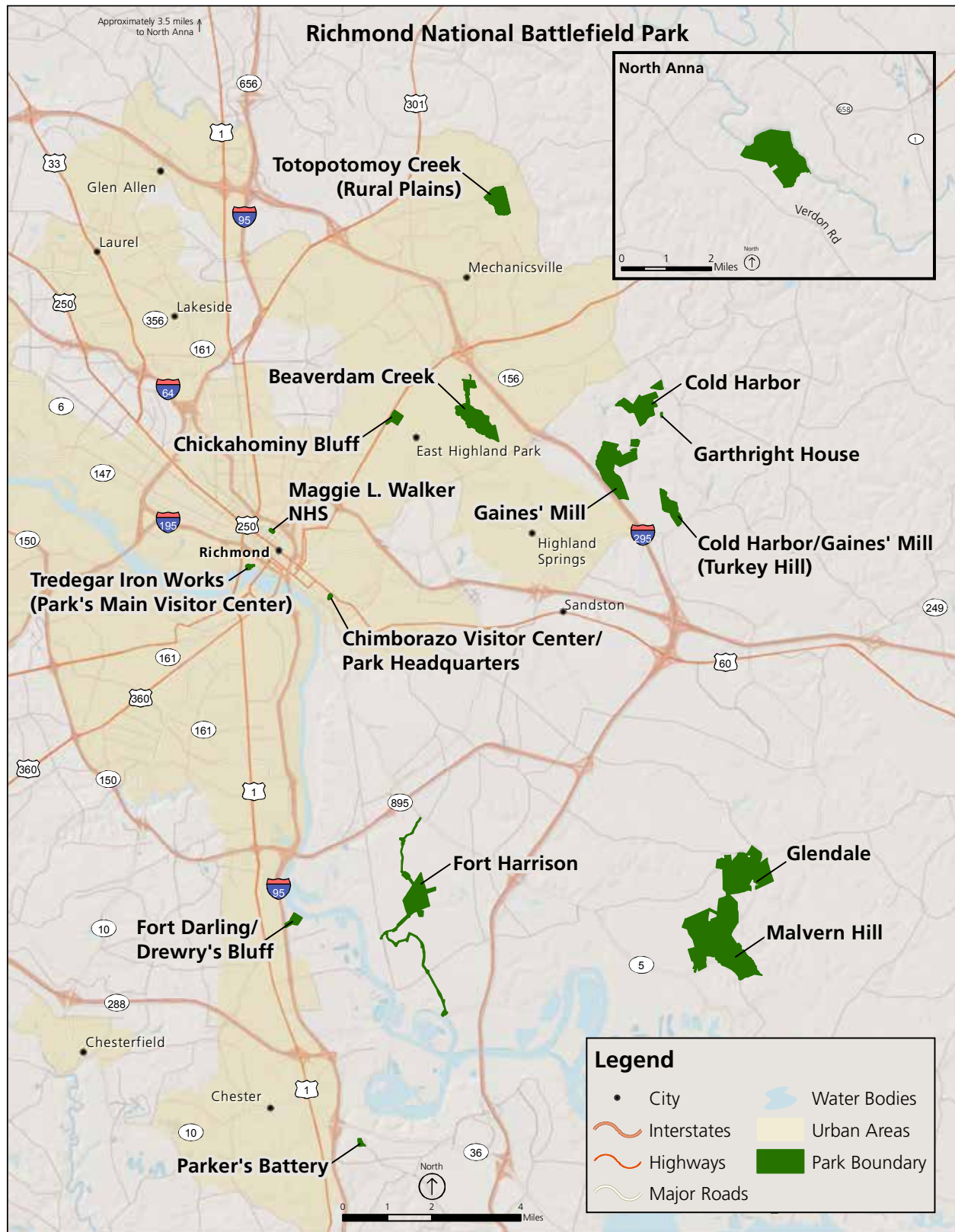
The Fort Harrison unit of the park tells the story of the Richmond-Petersburg Campaign. Grant's arrival on the outskirts of Petersburg on June 15, 1864, marked the start of the final long phase of the war in Virginia. Although the balance of the Federal Army threatened Petersburg, Grant established a bridgehead north of the James River to assist in applying simultaneous pressure on Richmond. Every Union offensive between July and October 1864 featured action on both fronts. The Bermuda Hundred peninsula, between the James and Appomattox Rivers, operated as a geographic connector, with substantial forces there. The largest of the episodes occurred on September 29–30, 1864. The Army of the James, under Gen. Benjamin F. Butler, crossed its namesake river and with 30,000 men made a dawn attack on Richmond's defenses. The surprise succeeded. Confederate defenders lost Fort Harrison, the largest of the forts below Richmond, and United States Colored Troops seized New Market Heights to the east. Further fighting mitigated the extent of the Union victory, as the attackers failed to take the smaller forts on either side of Fort Harrison. A Confederate counterattack the next day, under Lee's personal supervision, failed badly. The chief result of the fighting was the permanent presence of the Army of the James five miles south of Richmond, which necessitated stronger Confederate presence there during the winter. Union troops from the Fort Harrison vicinity were the first into Richmond in April 1865.

Chimborazo Hospital (NPS Medical Museum)

Richmond National Battlefield Park's Chimborazo Hospital site served as the medical center for the Confederacy because of its proximity to so many battlefields, and, more importantly, because of the many railroad lines that ran near it. Although dozens of hospitals existed at different times, none carried the fame—then or now—of Chimborazo Hospital. It opened in October 1861, and over the course of 42 months treated approximately 75,000 patients, a far greater sum than any other hospital during the Civil War. During the immediate post-war years, the site also served as a Freedman's village.

Tredegar Iron Works (Park's Main Visitor Center)

The Tredegar Iron Works is universally recognized as the most critical industrial asset to the Southern Confederacy. Tredegar produced a tremendous amount of war materiel between 1861 and 1865, including more than 1,000 cannon, field and siege, during that period. It also manufactured armor plating for Confederate warships and countless other products. So great was Tredegar's importance to the Confederacy that its presence in Richmond made defense of the city mandatory to safeguard the irreplaceable industrial giant.



DEVELOPMENT OF THE RESOURCE STEWARDSHIP STRATEGY FOR RICHMOND NATIONAL BATTLEFIELD PARK

This resource stewardship strategy represents the collaborative efforts of staff from the park; the NPS Northeast Region, the NPS Cultural Resources, Partnerships and Science Directorate; the NPS Natural Resource Stewardship and Science Directorate; and the NPS Denver Service Center, Planning Division. This resource stewardship strategy is based on the experience and professional judgment of resource specialists and park resource information available at the time of RSS development. This resource information was used to evaluate what is known about the condition and trends of resources. The project team involved in developing the resource stewardship strategy began by assessing issues, threats, and stressors to park resources and then identifying priority resources and their components (as defined in the table of key terms below). For each resource, stewardship goals were set and activities were identified to achieve those goals.

DEFINITIONS OF KEY TERMS

Priority Resource: A cultural or natural resource or value that the National Park Service manages or monitors to maintain a park unit's purpose and significance, to address policy/law mandates, or to address scholarly and scientific research needs or findings.

Priority Resource Component: An aspect or attributing resource that is integral to the functionality, importance, or condition of a priority resource and can be practically managed or monitored over the next three- to five-year horizon. Priority resource components are included, or nested, under the associated priority resources.

Stewardship Goals: Measurable and achievable directions for maintaining or improving priority resource information and/or conditions. Stewardship goals guide the National Park Service in its aim to enhance resource information; improve or maintain resource condition; address stressors; or achieve other park stewardship needs such as increasing collaboration with partners or expanding education, interpretation, and other programming related to the priority resources in coordination with other park planning activities.

Activity: One or more initiatives that strive to achieve a short-term stewardship goal. On its own, an activity produces a specific deliverable or outcome. Such activities may include assessments, documentation, identification, maintenance, operations, resource protection, thematic studies, cataloguing, evaluation, interpretation, planning, training, data recovery, education, inventory, monitoring, research, survey, treatment, restoration, or other types of management.





PRIORITY RESOURCES AND THEIR COMPONENTS

Priority resources drive the entire RSS process by focusing attention on those park resources that are critical and could most benefit from management direction within the next three to five years. Typically, the priority resources for a resource stewardship strategy may include those that are defined in a foundation document as fundamental or other important resources, as well as additional resources that park staff believes are necessary to maintain the park's purpose and significance, address policy or legal mandates, or address scholarly and scientific research needs. For more complex priority resources, individual resource components are evaluated separately in addition to the analysis of the resource as a whole. The identification of priority resources and components guides the development of stewardship goals and activities in subsequent steps of RSS development. Parsing out the components of each priority resource helps resource managers tailor these goals and activities to more directly target the resource condition or understanding of its constituent parts. Collectively, this component-level stewardship works to improve the condition or understanding of the broader, “umbrella” priority resource.

Table 1 lists the priority resources and their targeted components that were analyzed as part of the RICH Resource Stewardship Strategy. Each priority resource is described in greater detail in a resource summary that follows the table. These brief narratives provide additional information on the individual components of each resource, resource condition, relevant issues, stressors or threats, and current management.



Table 1: Priority Resources and Their Components Targeted for Discussion During the RSS Process

1862 AND 1864–65 BATTLEFIELD LANDSCAPES INCLUDING: • Earthworks • Field and forest patterns • Viewsheds and sense of place • Historic circulation patterns (roads, trails, paths) • Historic fencing patterns
HISTORY
HISTORIC BUILDINGS AND STRUCTURES INCLUDING: • Rural Plains • 1930s-era roads
MUSEUM COLLECTIONS INCLUDING: • Archeological collections • Collection items on exhibit • Collection items in storage
ARCHEOLOGICAL RESOURCES
HISTORIC MARKERS AND MONUMENTS
NATURAL COMMUNITIES INCLUDING: • Meadow • Upland forest • Riparian and wetland ecosystems
THREATENED AND ENDANGERED SPECIES INCLUDING: • Bat species



PRIORITY RESOURCE SUMMARIES

1862 and 1864–65 Battlefield Landscapes

Richmond National Battlefield Park consists of Civil War battlefields, sites, and cultural landscapes associated with several different military campaigns. Major battlefield sites of the 1862 Seven Days Campaign include Beaver Dam Creek, Gaines' Mill, Glendale / Frayser's Farm, and Malvern Hill. During the subsequent 1864 Overland Campaign, Federal and Confederate armies fought east of Richmond with major battles at Totopotomoy Creek and Cold Harbor. In addition to those two landmark campaigns, the park manages other battlefield sites, such as Drewry's Bluff on the James River and Fort Harrison, a vital component in the city's network of earthen defenses (NPS, CRSA 2017).

The patterns of forests, fields, streams, and fence lines of the battlefield park enable visitors to envision the battles that shaped the war. Despite changed conditions, the National Park Service is challenged to preserve a semblance of the historic appearance of the park's cultural landscapes while balancing the need to protect the health of the natural environment (e.g., wetlands, riparian areas, soils, and other sensitive resources). Priority has been given to protecting and improving viewsheds that are most likely to enhance visitor understanding of historic sites and settings while minimizing impacts on the natural landscape (NPS, CRSA 2017).

Terrain contributing to the park's battlefield landscapes varies widely based on its period of origin. For instance, battlefields associated with the Seven Days Campaign of 1862 were characterized by direct field combat between the armies without constructed fortifications for defense. Ground cover and topography often determined the course of the battles. The park has successfully returned portions of the battlefields to their 1862 appearance in accordance with the findings and recommendations of cultural landscape reports (CLRs) completed for Gaines' Mill, Malvern Hill, and Totopotomoy Creek (Rural Plains). Landscape restoration actions to restore priority viewsheds at Malvern Hill and Gaines' Mill consisted of some tree clearing, debris removal, and reseeding with native grasses. Historic fence lines along the road at Gaines' Mill were reconstructed. New land acquisitions for these sites and at other 1862 battlefield units in the park have created the need for further landscape investigations and documentation (NPS, CRSA 2017).

By 2017, seven of ten cultural landscapes will have been fully documented through the Cultural Landscapes Inventory (CLI) Program. In addition, cultural landscape reports have been initiated for the Gaines' Mill and Glendale landscapes. As a result, a programmatic assessment of the park's cultural landscape documentation is improving and is expected to continue to improve. As indicated in the CLI database, the physical condition of the landscapes ranges from poor to good, with only Drewry's Bluff categorized as being in poor condition. Estimated to require \$11M to stabilize the stream bank and address drainage issues, Drewry's Bluff is likely to continue to receive a poor rating because of the prohibitive costs and unknown efficacy and longevity of stabilization methods. (NPS, CRSA 2017).





Threats to the integrity of the park's cultural landscapes include occasional illegal dumping (e.g., Beaver Dam Creek), and chemical spills with environmental impacts (e.g., Drewry's Bluff). In addition, the park has cleaned up agricultural debris and several large dump sites at Malvern Hill and other battlefield sites that were inherited when the lands were acquired from private owners. The historical appearance of some wetland and riparian landscapes has been altered by beaver activity, and deer over-browsing has been noted as damaging agricultural fields and contributing to the encroachment of invasive vegetation. Unauthorized access roads and social trails can further adversely impact the character of the cultural landscape. The park's landscapes also face threats from climate change-driven factors such as increased precipitation, and storm frequency and intensity that can contribute to increased damage from flooding and erosion.

Other landscape threats and stressors include encroaching development on adjoining lands, urban expansion, and heavy vehicle use that are intruding on historic viewsheds and impacting the park's soundscapes. Unauthorized activity from utility companies also threatens archeological sites and natural communities. Pollution-caused haze and other factors obstruct or limit views, diminishing the park's historic setting and sense of place. Inappropriate recreational use of the battlefield further challenges the park's efforts to maintain a respectful and sensitive atmosphere conducive to commemoration and interpretation of the historic battle period.

Earthworks

The park's earthen fortifications (earthworks) are considered a primary resource, comprising a major landscape category associated with the 1864 battles around Richmond. At those sites (notably Cold Harbor and Fort Harrison) the management and protection of cultural landscapes is focused on maintaining the entrenchments and earthen structures. Approximately 14 miles of earthen trenches, batteries, and fortifications are visible reminders of the 1864 battlefield landscapes (NPS, CRSA 2017).

Constructed for different purposes, the earthworks differ in size, shape, aspect, and soil type. NPS staff use a variety of management techniques to allow visitors to view these historic resources while striving to protect them from erosion damage. At Cold Harbor, the majority of the earthworks are maintained in full forest coverage to protect their extremely erodible soils and in keeping with the battlefield's partially forested condition at the time of the battle. The park monitors the earthworks for hazard or fallen trees and damage from animals, removing and repairing damage when possible. The earthworks at Cold Harbor are well protected by a thick layer of leaf litter (NPS, CRSA 2017).

In other areas of the park, such as at the Fort Harrison unit, the landscape was open at the time of the battle. In these instances, NPS staff has undertaken removal of successional forest growth to enhance visitor understanding. For smaller earthworks with shorter side slopes, retention of a few surrounding trees is often sufficient to keep the earthworks free of encroaching vegetative growth, while providing protective leaf litter that can be supplemented as needed with mulch or wood chips. Protection of taller, steeper earthworks requires more concerted efforts to control erosion, and NPS staff have found the planting of native grasses rather than turf type grasses on the earthwork slopes to be the most successful technique. Ongoing preservation maintenance requires the annual removal of brushy growth and continual planting on bare spots (NPS, CRSA 2017).



History

Richmond National Battlefield Park was administratively listed in the National Register of Historic Places on October 15, 1966, and in the Virginia Landmark Register on January 16, 1973. The Keeper of the National Register rejected parkwide documentation prepared by the park in the early 1970s. A parkwide national register update was funded and initiated in 2014 and is on schedule to be completed in 2017 (NPS, CRSA 2017).

During the past forty years, the park's resources have been documented largely through a wide range of Determinations of Eligibility for listing in the National Register of Historic Places as part of cultural landscape inventories (CLI) and List of Classified Structures (LCS) inventory work (2001 and 2009, respectively). Two properties are listed in the national register: Rural Plains, listed on June 5, 1975, and the Civil War Medical Museum (also known as Richmond's US Weather Bureau Station), a contributing resource to the Oakwood-Chimborazo Historic District that was listed on March 18, 2005. Most of these evaluations were made without the benefit of a comprehensive understanding of applicable historic contexts. However, the soon-to-be completed parkwide National Register of Historic Places nomination will provide updated and comprehensive eligibility and significance documentation for the park and its resources (NPS, CRSA 2017).

In addition to parkwide national register documentation, Richmond National Battlefield Park also could benefit from a historic resource study that will address the full array of relevant historic themes and contexts. Likewise, the park would benefit from an updated administrative history to better understand park management decisions since the last document was completed in the 1950s. This updated report would capture the park's full history, including the Mission 66 initiative (ca. 1955 to 1966) and its land preservation and expansion period (ca. 1995 and 2013), during which the park more than tripled in size. (NPS, CRSA 2017).

Historic Buildings and Structures

Besides the earthworks, the primary historic structures at RICH are three antebellum buildings: the Garthright House at Cold Harbor (ca. 1720), the Watt House at Gaines' Mill (ca. 1820), and Rural Plains at Totopotomoy Creek (1723-1725). Rural Plains was listed on the National Register of Historic Places in 1975. While the three buildings are important contributing elements of the battlefield landscapes with interconnected interpretive themes, they also retain individual architectural and historical significance. The Garthright House and the Watt House are maintained and managed as exterior exhibits only, and have until recently served as housing for park employees. Rural Plains was acquired by the park in 2006; extensive historical and architectural research and the completion of a historic structure report (2012) have greatly advanced the park's knowledge of the building. The documentation will support and guide preservation treatment recommendations to help to ensure the condition of the building continues to improve (NPS, CRSA 2017).



Other historic structures include the West House, the Fort Harrison “log cabin,” and several road traces and roads (e.g., Hoke-Brady Road, Battlefield Park Road, and Anderson-Wright Drive). The roads are also contributing cultural landscape features. The former Chimborazo Hospital, now the site of the Civil War Medical Museum, is a contributing resource to the Oakwood-Chimborazo Historic District and was listed on the national register in 2005. Although the park operates its primary visitor center at the site of the former Tredegar Iron Works in downtown Richmond, the National Park Service does not own the national historic landmark building or retain responsibility for the building’s preservation management. The building survives from the large industrial complex that contributed to much of the Confederacy’s military armament and civilian manufacturing during the Civil War.

The general state of the park’s historic structures is good. The List of Classified Structures is thorough and up to date through 2016 (NPS, CRSA 2017).

Several factors have been identified as potential or ongoing threats to the integrity of the historic structures. Weathering, vandalism, erosion, and pest damage (e.g., from groundhogs, termites, and squirrels) pose ongoing threats particularly to historic wooden fabric and structural elements, and animal burrowing can damage the earthworks. Deferred maintenance can intensify the magnitude and expense of future necessary preservation maintenance and treatments. Climate change represents an important threat to historical structures because it is increasing the frequency and intensity of storm events and associated flooding and erosion. Aging fire detection and suppression systems in some buildings also present threats of structural loss or fire damage.



Museum Collections

Nearly 26,500 individual items consisting of history objects, archival collections, and extensive archeological collections are included in Richmond National Battlefield Park's museum collection. The history collection includes a broad array of items ranging from Civil War-era arms and ammunition, military uniforms and personal accoutrements, medical implements, and 19th-century civilian articles. The park also administers an active loan program and currently displays items on loan from major private and public Civil War collections, including the Museum of the Confederacy, the Virginia Historical Society, and the Hampton History Center. In addition, the park maintains incoming loaned items from other NPS sites including Gettysburg National Military Park and Manassas National Battlefield Park (NPS, CRSA 2017).

Many of the most unique pieces in Richmond National Battlefield Park's collection are displayed in one of two public museums. The Chimborazo Medical Museum displays nearly 250 medical artifacts to help interpret the medical story of the Civil War, particularly the history of Richmond's Confederate hospital system. The park's main visitor center at the Tredegar Iron Works displays roughly 200 military and civilian items. A very small selection of artifacts is also displayed in the three battlefield visitor centers at Cold Harbor, Glendale, and Fort Harrison. And, the history collection includes bronze and iron cannons that are publically displayed and interpreted in various battlefield units including Gaines' Mill, Malvern Hill, and Drewry's Bluff (NPS, CRSA 2017).

Starting in 2005, Richmond National Battlefield Park began purchasing artifacts from the personal collection (later, from the estate) of William R. Shelton, Jr. The impressive Shelton collection is comprised of furnishings, decorative arts, household items, weapons, books, and archives associated with Rural Plains. Park plans to restore Rural Plains to its mid-19th-century appearance include adapting it as a furnished house museum (NPS, CRSA 2017).

In addition to the archives of the Shelton family, the park's archival collection includes NPS administrative records and the records of the Richmond Battlefield Parks Corporation, which was the first organization to preserve the battlefields that, in part, comprise the national park today (NPS, CRSA 2017).

The park's 15,000 archeological artifacts, archives, and those items that are not displayed in the museums, are professionally housed in secure climate controlled storage at the Maggie L. Walker National Historic Site (NPS, CRSA 2017).

Although controlled storage at the Maggie L. Walker National Historic Site facility meets approved NPS standards and guidelines, other park museum collection facilities occasionally face environmental / curatorial threats and challenges, including inadequate humidity, temperature, and light controls, along with threats from fire, theft, and pests. Climate change could compound the impacts on museum collections in consideration of environmental fluctuations related to increased humidity, temperature, storm threats, and related flooding.

A high percentage of the park's displayed objects are on loan from external entities, which increases museum staff needs to coordinate with and respond to outside curatorial protocols and requests. Although the historic archives are fully catalogued, the existing storage space could be strained if the park accessions the Resource Management Records per the guidance of the Collections Management Plan. The park faces mounting costs for archeological artifact curation (because of additional NPS requirements) and decreased storage capacity.



Archeological Resources

Richmond National Battlefield Park's archeological resources are associated with ancestral Native American occupation, contact period sites, and historic period sites that postdate and predate the Civil War. The majority of recorded, registered, and interpreted archeological sites represent the Seven Days' battles in the summer of 1862, Grant's 1864 Overland Campaign, and the Richmond-Petersburg Campaign of 1864-65. These archeological resources are associated with remnant earthen fortifications and artillery batteries, and former house locations that existed during the battle period of significance (NPS, CRSA 2017).

Intensive archeological surveys and geophysical testing have been conducted at the park over the past two decades that have substantially increased understanding of the park's archeological resources. Archeological surveys covering approximately 10% of the park's lands have identified 87 sites. About 360 acres owned by the park have not been archeologically surveyed, and another 500 acres recently conveyed to the park by the Civil War Trust require archeological survey and assessments (NPS, CRSA 2017).

The park's archeological collections, comprised of about 15,000 items collected from 30 projects, are curated and catalogued at Maggie L. Walker National Historic Site. Approximately 90% of the archeological collections are catalogued and curated in accordance with NPS standards for climate control and security protection. Archeological reports and surveys have been incorporated into the Cultural Resource Bibliography. No reports were listed in the Integrated Resource Management Applications system (NPS, CRSA 2017).

An ongoing parkwide archeological overview and assessment was initiated in 2015, and future archeological investigations will address the management of resources that may exist on recently acquired lands. Geographic Information System (GIS) data is critical to managing large landscape features such as earthworks and fortifications, and the park is striving to bring current geographic data into established Cultural Resource Spatial Data Transfer Standards and for incorporation into the Integrated Resource Management Applications system (NPS, CRSA 2017).

The park's archeological resources face ongoing threats from the illegal collection of artifacts that can disturb the in-situ integrity of archeological sites. Park staff frequently have to address cases of illegal collection and metal detector use to prosecute violations under the Archeological Resources Protection Act. To effectively counter illegal activities, park staff would benefit from more accurate and expanded information provided by historic maps and documents to better identify potential artifact concentrations and sensitive resource areas.

Climate change can potentially contribute to erosion, flood events, and wind events that increase tree fall that can expose artifacts and/or compromise the stratigraphic context of archeological sites. Inappropriate recreational activities such as mountain biking and off-road vehicles can further contribute to the disturbance and erosion of archeological resources. Inadvertent site disturbance can result from utility companies and others with legal rights-of-way through the park who may not always be aware or sensitive to the battlefield landscape, archeology, and park interests. The park also faces mounting costs of archeological artifact curation and decreased storage capacity.



Historic Markers and Monuments

Identified as an “other important resource or value” in its foundation document (NPS 2017), the Douglas Southall Freeman markers and various monuments spread across the park’s subunits interpret and commemorate Richmond’s battlefields. The “Freeman markers” —a series of 1920s roadside markers and perhaps the first of their genre—represent the pioneering steps in telling the story of the battles. Dr. Douglas Southall Freeman, the principal force behind the creation of the markers and a local historian of great national reputation, worked with the local Rotary Club and others to place more than 60 markers. Each marker is a cast iron plaque set into a concrete base, and some rest on granite foundations. Thirteen of the markers are within park boundaries. Each of the 13 markers was rehabilitated in 2010, which included cleaning, repainting, repointing of the stone foundations, and some repair to the bases (NPS 2015).

Monuments are primarily commemorative by comparison. Notable monuments include the Connecticut, Wilcox, Parker’s Battery, and Texas monuments. These memorials to the Richmond battles have further importance because of the park’s relatively late date of establishment that prevented the development of a traditional, veteran-driven commemorative landscape.

Markers and monuments are listed in “good” condition in the Facility Management Software System (FMSS) database, and most are professionally preserved (NPS 2017). Similarly, all markers and monuments are documented in the park’s List of Classified Structures. The park uses standard techniques for historic masonry maintenance and conducts yearly condition surveys.

Markers and monuments are impacted by their proximity to roads. The Freeman markers are frequently hit by vehicles and require repairs (due in large part to 1920s traffic patterns that are substantially different than modern circulation in the area). Other stressors to the markers and monuments include weather-related impacts, general aging (i.e., mortar cracking), and air pollution. Vandalism and graffiti are also cited as common threats.

Information and data needs for markers and monuments are an extension of those indicated for cultural landscape and newly acquired park land priority resources. Several commemorative and historic landscape resources need to be added to cultural landscape reports on both long-held and existing park lands as well as lands that have been recently added. Adapting or preserving markers and monuments to climate change-related impacts is another broad planning need for these priority resources.



Natural Communities

The park's natural communities contain historic and nonhistoric forests, as well as meadows, hundreds of acres of wetlands, and nine stream and river communities that are part of the Chesapeake Bay watershed. These community types harbor diverse assemblages of woodland and wetland birds, mammals, reptiles, amphibians, and invertebrates. These communities are identified as "Other Important Resources or Values" in the park's foundation document (NPS 2017). Some exemplary wetland areas include the southern end of Western Run, which is considered by Partners in Flight to be an Important Bird Area, nine acres of Coastal Plain/Piedmont Acidic Seepage Swamp at the Cold Harbor unit, and 50 acres of Coastal Plain/Piedmont Floodplain Swamp forest at Turkey Hill that are Virginia Natural Heritage Exemplary community occurrences. In addition, the Coastal Plain Mesic Mixed Hardwood forest community that is present on 27 acres at Turkey Hill is also a Virginia Natural Heritage Exemplary community occurrence (Taverna 2014).

As the park's successful land preservation program has swelled from 754 acres in 2003 to more than 3,600 acres currently—and still growing—so has its responsibilities to steward additional natural areas. Because the park did not receive a fund increase with this increase in lands, it has limited staff and funding, and, as a result, it does not plan to provide access or visitor amenities to many of these new parcels in the near future. Nearly 600 acres (approximately 17% of park lands) will remain in agricultural use under Special Use Permits. As of 2012, with all 12 park units combined, 5% was managed meadow/grassland (130 acres), 10% was riparian forest (264 acres), 12% was riparian wetland (372 acres) with an additional 1% of stream/river systems (13 acres), and approximately 50% was comprised of upland forest (1,160 acres) (Schneider et al. 2012).

The park maintains its largest meadow habitats as part of the cultural landscape as it mimics the open agricultural landscape present at the time of the Civil War, while protecting soil and water and providing important native habitat. Managers use prescribed fire to maintain the cultural landscape as well as to promote native vegetative cover. There are patches of cultural meadow/grassland on five park units; however, only Malvern Hill, Gaines' Mill, and Cold Harbor have patches greater than 10 acres. Although these are small extents of land from a regional ecological perspective, they are important to conserve and enhance at the park level. The park's cultural meadows are currently managed for native, warm season grasses. In addition to creating habitat preferred by many species of birds and small mammals, an added benefit of prescribed fire operations is a reduction of maintenance effort and mowing. Native grasses protect the soil and waterways from runoff and erosion, while providing habitat for several species of declining meadow nesting birds (Schneider et al. 2012).

Similarly, the park's riparian buffers help control sedimentation, remove excess nutrients from surface runoff, moderate surface water temperature flux, and support habitat and migration corridors for flora and fauna. Combined with their wetland and stream/river counterparts, the park's riparian and wetland ecosystems rate in "excellent" condition. Turkey Hill and Beaver Dam Creek in particular have the healthiest buffer conditions in the park (Schneider et al. 2012) and, as noted, the Acidic Seepage Swamp at the Cold Harbor unit and Floodplain Swamp forest at Turkey Hill are considered rare wetland ecosystems in the eastern United States (Schneider et al. 2012).

Finally, upland forest, which includes a variety of early and late successional community types, represents the greatest land cover of the three primary natural community types at the park. The park's 2008 Vegetation Classification listed that the park's mature forests, totaling 487 acres and 35% of the park, were made up of three community types: Mesic Mixed Hardwood forest, Coastal Plain Mixed Oak/Heath forest and Acidic Oak-Hickory forest (Patterson 2008). The most common tree species found throughout the park are oak, hickory, beech, maple, tulip poplar, loblolly pine, and eastern red cedar. The condition of the forest Vegetation and Soils is rated at "warrants moderate concern," based on seedling regeneration and invasive species proliferation among other things (NPS 2015).

Climate change has the potential to increase extreme precipitation events and erosion, extreme heat, and invasive species proliferation. Mean annual temperatures in the region have been increasing 0.17°F per decade since 1960 and, compared with the 1971–1999 average, are projected to increase 2–3°F by 2050 and 4–7°F by the end of the century (NPS 2015). The greatest increases will likely occur in summer and fall, although all seasons will see significant warming. Precipitation projections indicate minor to moderate increases in annual totals over the coming century. Variable precipitation is likely to remain over the coming decades, and there is greater uncertainty in precipitation than temperature projections (NPS 2015).

External development ranging from sporadic rural development (near Malvern Hill) to intense commercial or industrial development (near Chickahominy and Drewry's Bluffs) are threats to park management as well. Related stressors include air pollution from local and regional sources, which can impact in-park biological integrity. While estimated values for pollutant deposition (sulfur, nitrogen, mercury/toxics), ozone, and visibility warrant concern, recent trends for ozone and visibility suggest air quality may be improving (NPS 2015). There is also a closed county landfill from the 1960s/1970s at the Drewry's Bluff unit. The landfill is currently being investigated, through CERCLA, to characterize impacts to safety and park resources and to identify appropriate clean-up activities. The park is working closely with the NPS Contaminated Sites Program on this issue. In addition, agricultural practices at local farms can impact the park's water resources. Newly acquired agricultural lands may have areas of erosion or require additional buffers between fields and water resources/erodible soils. Park managers must work closely with agricultural permittees to ensure ecologically sensitive practices. (NPS 2017).

Other key management threats to natural communities include low forest regeneration rates related to high white-tailed deer density; invasive species proliferation; and inappropriate recreation. The mean density of deer as determined by park staff has ranged between 20 and 50 deer/mi², and Horsley et al. (2003) found negative impacts on forest vegetation starting at levels above 20 deer per deer/mi². Invasive plant species such as Japanese honeysuckle, Chinese privet, Asiatic bittersweet, and Japanese stiltgrass are overtaking native vegetation in some areas. Similarly, invasive nonnative pests and pathogens, such as the emerald ash borer, could have a substantial impact on natural communities. Recreational activities such as biking or horseback riding in unapproved areas or all-terrain vehicle use can increase erosion and introduce invasive vegetation.

The park conducted three baseline biological inventories between 2009 and 2013 (vegetation communities, birds, and reptiles/amphibians) on 600 acres of battlefield lands acquired between 2004 and 2008 to complement 12 baseline inventories completed parkwide (NPS 2015). Primary data gaps for the park's natural communities include baseline data for new lands; deer population surveys and associated monitoring is needed for each of the park's units; and updates on State of the Park Report and NRCA tables for long-term forest monitoring, water quality, and bird monitoring data that need to be requested are available from the Mid-Atlantic Inventory and Monitoring Network (I&M). Planning needs for natural communities indicated in the foundation document include a deer management plan, invasive species management plan, integrated pest management plan for agricultural use, and climate change vulnerability assessment.



Threatened and Endangered Species

Increasingly rare and imperiled species, the federally threatened northern long-eared bat, federally endangered Indiana bat, and Virginia state endangered tri-colored bat have been detected parkwide in low numbers (Ford and Kalen 2016). The Ford and Kalen bat survey and assessment that began in 2016 and is currently in progress also indicates little brown bats were observed at 14 locations in Malvern Hill, Glendale, Cold Harbor, Gaines's Mill, Beaver Dam Creek, Fort Harrison, and Turkey Hill.¹ No additional threatened and endangered species have been detected in the park.

All four listed and imperiled bat species are subject to similar threats, principally white-nose syndrome, which has caused severe population declines to these species (Silvis et al. 2016, Turner et al. 2011). Summer forest harvest and habitat manipulation poses a threat to day and maternity roosts of these tree-roosting species (Silvis et al. 2016). Additionally, all four species are known to roost in buildings and other manmade structures, so demolitions and structural removals should be done with caution or avoided altogether during the maternity season (May-Aug.). Finally, although wind turbine mortality mostly affects hoary bats, eastern red bats, silver-haired bats, and big brown bats, it does pose some threat to these four species, particularly tri-colored bats (Arnett and Baerwald 2013).

1. The survey includes a post white-nose syndrome assessment of bat occupancy in six NPS units in Virginia, including RICH, Appomattox Court House Historical Park (APCO), Booker T Washington National Monument (BOWA), Fredericksburg and Spotsylvania National Military Park (FRSP), and Petersburg National Battlefield Park (PETE).





KEY PARK ISSUES, STRESSORS, AND THREATS

The park faces a variety of stressors or forces that have—or may potentially—impact the park’s priority resources and components. In addition to management challenges, such as urban development along park boundaries, stressors include climate change related factors as well. Key park issues, stressors, and threats were considered in the development of resource stewardship strategies, including the priorities given to the stewardship goals and activities.

Table 2 identifies key stressors, their potential implications, and resource types affected.

Table 2: Key Resource Issues and Stressors

ISSUES AND STRESSORS	POTENTIAL IMPLICATIONS	RESOURCES TYPES AFFECTED
INTEGRATION OF NEW PARK LANDS	As the park continues its successful land preservation program—growing from 764 acres in 1996 to more than 3,600 acres in 2017—the additional acreage creates both challenges and opportunities for the park to protect, maintain, and interpret new sites. Park funding and staffing levels have not increased commensurately with the increased land base. Many of the new lands are acquired with modern buildings, for example, and these homes and debris must be removed. In addition, several new land acquisitions will need access points (e.g., parking nodes, interpretive signs, trails) to connect visitors to the resources.	All priority resources.
SURROUNDING LAND USE AND DEVELOPMENT	The fragmented nature of the park—coupled with urban and suburban growth and industrial and agricultural use—has the potential to impact viewsheds, soundscapes, air and water quality, and habitat value within the park. Utility company and other legal right-of-ways are often insensitive to the battlefield landscape and park interests, for example. Unauthorized access roads and social trails can further impact the character of the park’s battlefield landscapes. Similarly, heavy vehicle use, vandalism, and illegal dumping in certain park units are associated impacts.	Battlefield landscapes, including viewsheds, field and forest patterns, historic circulation and fencing patterns, and archeological resources. Natural communities and threatened and endangered species, such as the northern long-eared bat and Indiana bat, are also affected.





Table 2: Key Resource Issues and Stressors (cont.)

ISSUES AND STRESSORS	POTENTIAL IMPLICATIONS	RESOURCES TYPES AFFECTED
RIVERFRONT EROSION AND DRAINAGE PROBLEMS AT DREWRY'S BLUFF	Because of its location on an outside bend of the James River, Drewry's Bluff is impacted by natural erosion and other drainage issues. Erosion rates are not well understood; however, stabilization costs were estimated at \$11 million. Threats from climate change-driven factors, such as increased precipitation, and storm frequency and intensity can contribute to increased damage from flooding and erosion.	Battlefield landscapes and earthworks.
WEATHERING, VANDALISM, AND PEST DAMAGE TO SOME HISTORIC STRUCTURES	Aging and weathering in particular pose threats to Rural Plains and the West, Watt, and Garthright Houses. Pest damage from termites and squirrels pose ongoing threats to historic wooden fabric and structural elements. Burrowing animals, such as groundhogs, can damage earthworks and historic building foundations. Climate change may also exacerbate these threats since moisture tends to invite rot and, in turn, increase pests. Aging fire detection and suppression systems in some buildings also present threats of structural loss or fire damage. Deferred maintenance can intensify the magnitude and expense of future necessary preservation, maintenance, and treatments.	Historic structures and earthworks.
APPROPRIATE RECREATION AND VISITOR ACCESS	An increasing number of visitors use many of the varied battlefield units not necessarily to experience Civil War history, but to walk along trails, enjoy scenic resources, exercise, and recreate in increasingly new ways. In recent years, the park has received an increasing number of requests to expand recreational opportunities for equestrian use, bicycling, and geocaching, for example. While these uses are not fundamental to meeting the park's significance or purpose, participants in these activities benefit from learning about the park's rich history, which further expands the park's support base. As noted, several new land acquisitions will need access points (e.g., parking nodes, interpretive signs, trails) to connect visitors to important interpretative stories.	Battlefield landscapes and natural communities.

Table 2: Key Resource Issues and Stressors (cont.)

ISSUES AND STRESSORS	POTENTIAL IMPLICATIONS	RESOURCES TYPES AFFECTED
ENVIRONMENTAL CONTROLS AND SECURITY OF CURATORIAL FACILITIES AND MUSEUM COLLECTIONS	All museum objects in collections storage or on exhibit are kept to NPS museum standards and are cleaned and monitored regularly. However, it can be a challenge to maintain proper environmental controls, exclude pests, and maintain ideal systems for fire protection in the historic buildings where collections are stored and exhibited. This is especially difficult at the Tredegar Visitor Center as the park does not own or maintain that facility. Therefore, the park has to work closely with its partner to ensure that the aging HVAC system is maintaining the proper climate levels. Climate change could impact museum collection items through increased weather fluctuations related to humidity, temperature, storm threats, and related flooding.	Museum collections.
LOANED MUSEUM ARTIFACTS	A high percentage of displayed objects are on loan from external entities. For example, the park would lose nearly all of the artifacts on display at Chimborazo if the lenders requested them back.	Museum collections.



HIGH PRIORITY STEWARDSHIP GOALS AND ACTIVITIES

Based on the current status of information and condition of natural and cultural resources, as well as stressors and other management considerations (e.g., urgency to protect the priority resources, feasibility, sequencing order), park staff identified a wide array of stewardship goals and associated management activities to consider over the next 3- to 5-year horizon. While the RSS desktop application includes all of these goals and activities identified for each priority resource component, the following table represents the stewardship goals and activities determined at the RSS workshop to be high priority during this 3- to 5-year horizon. Other goals and activities are still valuable approaches for achieving resource objectives and may rise to the level of high priority in the coming years.

Table 3 includes each priority resource, a list of its components, and short-term stewardship goals and high priority activities identified by park staff. **Some short-term goals, such as the goal associated with “all battlefield landscapes,” include several bands of activities that are indicated by alternating shaded cells in the activities column. These activity bands simply represent distinct suites of activities to implement the stewardship strategy for the short-term goal. If a cell in these tables is denoted with an “n/a,” park staff did not identify any high priority activities for a particular short-term goal at the time of publication.**



Table 3: Components, Long- and Short-Term Goals, and High Priority Activities

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
PRIORITY RESOURCE: 1862 AND 1864–65 BATTLEFIELD LANDSCAPES			
BATTLEFIELD LANDSCAPES	The park has up-to-date cultural landscape information that provides direction for managing the cultural landscape.	High priority landscapes have an associated Cultural Landscape Report (CLR) and Treatment Plan. Work with Olmsted Center to complete cultural landscape inventories (CLI) or CLI updates, as appropriate, for 75% of park battlefield landscapes.	- Establish criteria to prioritize park landscapes for CLIs and CLR (e.g., interpretive or facility values) - Assess new areas for priority landscape needs. - Provide project support for Gaines Mill and Glendale CLR that are currently funded. - Link natural and cultural resource data with CLI and CLR research and inventory data. - Coordinate with Landscape Conservation Cooperative in connecting natural and cultural landscape (large landscape tools/goals). - Update park's long-range interpretive plan. - Prepare Record of Treatment for Malvern Hill landscape work (based on treatment plan in CLR).
			- Prepare Record of Treatment for Totopotomoy Creek landscape work (based on treatment plan in CLR). - Pursue funding for high priority landscape needs. - Connect actions to FMSS to ensure activities are in sync and funding aligns. - Evaluate need to reoptimize bands based on new information.
			- Digitize CLR recommendations into park GIS. - Continue to complete FMSS condition assessments for maintained landscapes. - Communicate landscape condition between resource and facility management divisions. - Initiate Cold Harbor CLI, CLR (or both).
			- Prepare records of treatment for completed landscape work (based on treatment plan in CLR).

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
PRIORITY RESOURCE: 1862 AND 1864–65 BATTLEFIELD LANDSCAPES (CONT.)			
BATTLEFIELD LANDSCAPES	Rehabilitate battlefield landscapes to more accurately convey their wartime appearance, to the extent possible.	Use new and existing documentation to implement treatment recommendations for battlefield landscapes, emphasizing in interpretation the role of the terrain, the domestic landscapes, and the field/forest patterns in the course of the individual battles.	- Determine if additional interpretative trails should be established in consultation with park's interpretive plans.
			- Finish Totopotomoy Creek landscape treatments.
			- Create PMIS projects for Gaines' Mill and Glendale landscape treatments recommended in planning document.
			- Conduct necessary 106 and NEPA compliance.
			- Build trails.
BATTLEFIELD LANDSCAPES	Rehabilitate battlefield landscapes to more accurately convey their wartime appearance, to the extent possible.	Use new and existing documentation to implement treatment recommendations for battlefield landscapes, emphasizing in interpretation the role of the terrain, the domestic landscapes, and the field/forest patterns in the course of the individual battles.	- Create and install interpretive waysides.
			- Manage clearing projects and implement treatment of battlefield landscapes.
			- While projects are underway, interpret what's being done and why.
			- Update FMSS to include newly and updated Maintained Landscapes and work orders and develop a record of treatment.
EARTHWORKS	The park's collection of earthen fortifications, from picket posts to large classically designed forts are preserved or protected and maintained to define the military landscape and reflect the evolution of warfare to evoke and interpret conditions at Richmond during the battle periods.	Implement earthworks management guidance contained in the Secretary of the Interior's Standards, the NPS Sustainable Military Earthworks Management Guideline, and the park's Earthworks Management Plan.	- Map newly acquired earthworks and assess them for necessary management needs.
			- Inventory for root ball, stump hole, animal damage, and hazard trees on forested earthworks.
			- Repair identified root ball, stump hole, and animal damage.
			- Continue work to ensure adequate cover on grass-covered sections of earthworks, while treating with herbicide every 3-5 years to minimize woody growth and broadleaf weeds.
			- Identify how to maintain tree cover at partially forested fort sites, especially Drewry's Bluff, Parkers Battery, and at the Fort Harrison unit. Coordinate with facilities division to maintain tree cover in open forest regime at Fort Harrison and Drewry's Bluff to protect earthworks.

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
PRIORITY RESOURCE: 1862 AND 1864–65 BATTLEFIELD LANDSCAPES (CONT.)			
EARTHWORKS	The park's collection of earthen fortifications, from picket posts to large classically designed forts are preserved or protected and maintained to define the military landscape and reflect the evolution of warfare to evoke and interpret conditions at Richmond during the battle periods.	Implement earthworks management guidance contained in the Secretary of the Interior's Standards, the NPS Sustainable Military Earthworks Management Guideline, and the park's Earthworks Management Plan.	- Ensure earthworks management actions are coordinated with CLR recommendations. - Assess the need for groundhog and muskrat management SOP for fields and earthworks. - Review current practices and assess efficacy through regular vegetation, soil, or photographic monitoring; - Continue to research new soil preservation strategies that seek to balance resource protection, visitor understanding, and sustainable management. - Train grounds staff on Earthwork Management SOP and inventory/management protocols. - Evaluate climate change threats and incorporate into earthworks management: Check climate scenarios for tree species that are vulnerable to future pest expansions or will no longer be able to survive in this area and ensure that these trees are not chosen to protect earthworks.
VIEWSHEDS AND SENSE OF PLACE	Protect and improve historical views, where practical (both within the park and those extending outside park boundaries), to evoke historic conditions.	Continue to remove modern houses and debris from newly acquired lands and appropriately rehabilitate landscapes.	- Continue to remove nonhistoric buildings and debris with volunteers—actionable - Conduct necessary 106 compliance before removal.
	Enhance the park's contemplative sense of place by minimizing disturbances associated with traffic noise, inappropriate recreation, and other incompatible activities.	Assess visitor use areas to determine the appropriateness of popular recreational activities based on trail type, resource value, and interpretive themes. Monitor for visitor impacts and resource degradation.	- Submit a PMIS project for a visitor use study. - Identify interpretive themes appropriate to specific areas that appeal to recreational users. - Conduct a visitor use survey

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
PRIORITY RESOURCE: 1862 AND 1864–65 BATTLEFIELD LANDSCAPES (CONT.)			
FIELD AND FOREST PATTERNS	Preserve and restore healthy, diverse and naturally regenerating fields and forests to evoke the wartime landscape pattern and promote ecological integrity.	Agricultural-leased fields and other open areas are managed to protect soil, water, and surrounding plant and animal communities and are consistent with NPS Management Policies, RM28, RM53, RM77, and the Chesapeake Bay Preservation Act.	- Maintain meadows/grasslands, through burning and/or bush hogging, in areas where CLRs have recommended the removal of forest; but soil, water, or archeological constraints preclude cultivation. - Include best practices and policies that protect natural and cultural resources in ag leases. - Assess current Agricultural-leased lands for 'problem areas' such as erosion or riparian areas adjacent to farms for repair and buffer strips. - Establish criteria to prioritize landscapes for treatments such as clearing.
			- Update park vegetation management plan (including forest thinning, fire, meadow management, and invasive species management). Favor preserving species that can best persist under future climate conditions. Identify and prioritize forested landscape management activities. - Use criteria to identify areas for clearing at Glendale; create PMIS project for funding.
		High priority forest views/landscapes that contribute to historic significance are maintained to evoke and interpret historic land use and battle movements across the landscape, while protecting soil and water and considering fiscal sustainability.	- Develop parkwide criteria to identify high priority forested areas for thinning. - Favor preserving species that can best persist under future climate conditions. Identify and prioritize forested landscape management activities.

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
PRIORITY RESOURCE: HISTORIC BUILDINGS AND STRUCTURES			
HISTORIC BUILDINGS AND STRUCTURES	Historic structures are appropriately treated in accordance with the Secretary of Interior's Standards and are preserved in the best condition possible, with consideration for unavoidable disturbance and fiscal limitations.	Comprehensive condition assessments are conducted on a 5-year cycle, and less intensive general inspections are conducted at least annually as part of park's preventive maintenance program.	- Ensure all historic structures on newly acquired properties are added to LCS via pending National Register documentation.
			- Identify target structures for comprehensive condition assessments, and work with NPS NER to secure funding for CCAs.
			- Ensure FMSS and LCS condition information is in alignment
			- Decide best future use of the Watt and Garthright house interiors based on resource preservation and fiscal sustainability (park housing, leased space, etc.).
			- Determine if climate change vulnerability assessment is needed, and develop a technical assistance request as necessary.
PRIORITY RESOURCE: MUSEUM COLLECTIONS			
COLLECTION ITEMS ON EXHIBIT (ON LOAN AND RICH OWNED)	All museum collections on exhibit in historic buildings and visitor centers are preserved, maintained, accessioned, and cataloged per NPS standards. Baseline documents for collection items specified in DO-28 and DO-24 are complete and up to date.	Determine environmental conditions necessary for future museum collections at Rural Plains.	- Study Rural Plains work with HACE and NMSC (ensure that preservation of collections does not damage house and vice versa). - Curator and facility manager take training on sustainable preservation and environmental management to determine how to best meet environmental needs of the historic structure and collections objects.
PRIORITY RESOURCE: ARCHEOLOGICAL RESOURCES			
ARCHEOLOGICAL RESOURCES	The park has up-to-date information that provides direction for the research and protection of archeological resources and informs park management and interpretation.	Complete archeological identification studies for all park units and gather baseline archeological information to identify, document, and evaluate the significance of potential sites with an emphasis on assisting interpretive development.	- Enter preliminary information in GIS layer (begin with North Anna and Wright tract) for historic roads and building sites. - Ensure that all ASMIS sites are reflected completely in the park's GIS as well as FMSS. - Conduct archeological identification studies for North Anna site and Wright property.

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
NATURAL COMMUNITIES			
NATURAL COMMUNITIES	Ensure there is adequate biological information on status and trends of the park's natural communities to assess effects of long-term changes to ecosystems. Integrate climate change information, including trends and implications of future vulnerabilities in natural resource management planning.	Develop a science-based monitoring and management framework that will (1) provide early detection and rapid response for biological invasions; (2) track changes in the abundance and distribution of native species; (3) track changing conditions beyond the park's boundaries; and (4) provide for adaptive management of park resources based on changing conditions.	- Assess and compile existing NR information for new lands. - Develop PMIS project for baseline NR inventories for new lands. - Identify priority areas of high ecological integrity, both within and adjacent to the park, and identify criteria for ecosystem integrity (via a desired conditions exercise) as well as vulnerabilities for primary park ecosystems. - Use connectivity maps (LCC) to identify priorities for natural resource management at battlefield sites. - Participate in I&M scoping 2.0 (for mid-Atlantic network). - Identify science needs not currently included in existing long-term monitoring components. - Work with I&M to evaluate / report / share current park data. - Ensure enhanced monitoring of high ecological integrity areas for invasive pests and other stressors and changes. - Assess need to balance priorities for forest and water quality monitoring of newly acquired lands versus other park lands. - Prioritize identified areas of high ecological integrity for preservation and restoration if degradation occurs.
RIPARIAN AND WETLAND ECOSYSTEMS	Riparian and wetland species and communities, including Natural Heritage Program occurrences, are managed for ecological resilience (including biodiversity and preservation) and climate change-driven ecological change.	Preserve wetlands and riparian areas, including associated native vegetative buffers to protect these areas from erosion and runoff.	- Inventory and ground-truth wetlands on newly acquired properties using NWI data and forest community data, if available. - Coordinate with NPS Climate Change Response Program and NPS Northeast Region Coastal Landscape Adaptation Coordinators on obtaining vernal pool data from NALCC and INDU using LiDAR data. - Continue vernal pools mapping study.

Table 3: Components, Long- and Short-Term Goals, and High Priority Activities (cont.)

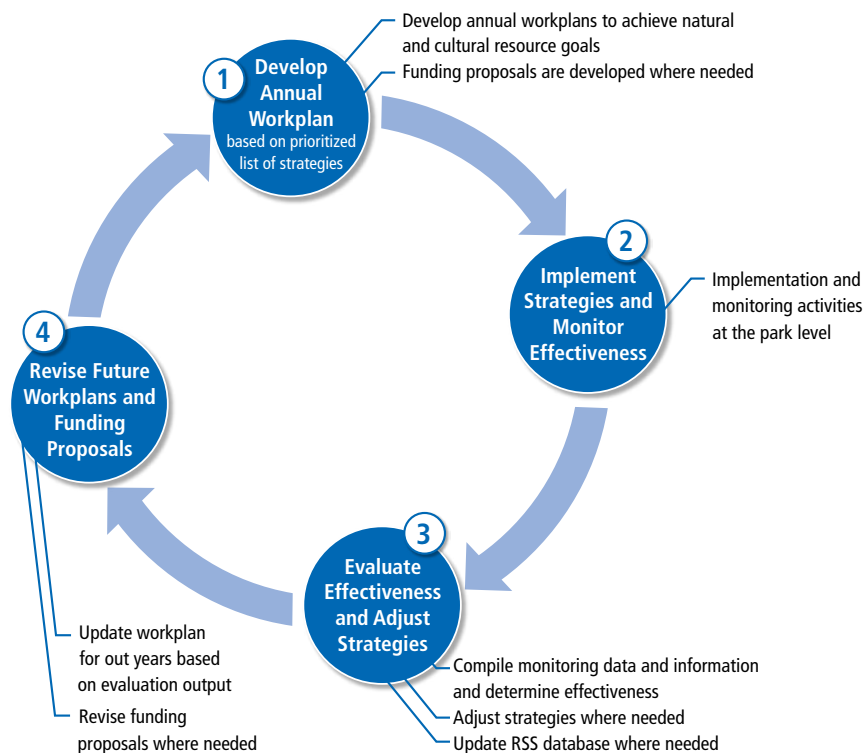
COMPONENT	LONG-TERM GOALS	SHORT-TERM GOALS	HIGH PRIORITY ACTIVITIES
NATURAL COMMUNITIES (CONT.)			
RIPARIAN AND WETLAND ECOSYSTEMS	Riparian and wetland species and communities, including Natural Heritage Program occurrences, are managed for ecological resilience (including biodiversity and preservation) and climate change-driven ecological change.	Preserve wetlands and riparian areas, including associated native vegetative buffers to protect these areas from erosion and runoff.	- Interpret changes in historical stream features, including effects based on projected climate change. - Work with park facilities to include natural resource goals in culvert assessment (i.e., assess for suitability, both aquatic passage and size/condition/erosion, at stream crossings and wetlands). - Expand monitoring of all vernal pools by citizen scientists. - Interpretation of vernal pools as a climate change indicator. - Identify and delineate wetland areas on new park lands for preservation and restoration.
MEADOW	Maintain the ecological value of the park's meadows as a component of the landscape level conservation efforts to protect grassland species and function in the Northeast Region, while also adapting to climate change-driven ecological change.	Meadows are managed to allow for a diverse community of native grassland vegetation that together provide quality habitat for pollinators and other faunal species such as grassland bird species. Maintain large intact tracts of meadow habitat where possible.	- Interpret meadow ecosystem benefits. - Determine which new lands are suited to burn management. - Maintain cycles of meadow and woodland burn in Malvern Hill and Cold Harbor. - Check eBird to identify birding hotspots for interpretative materials or to enhance visitation numbers to assess natural resource management priorities. - Develop a meadow management plan (including specific ecological and visual goals and criteria to determine if the park is reaching these goals). - Ensure that existing park meadows are maintained outside of peak nesting periods for ground nesting birds known to inhabit the area.
THREATENED AND ENDANGERED SPECIES	Use existing and developing practices to maintain or improve bat populations and habitats.	Obtain ecological information about bat species known to inhabit areas within park boundaries (in addition to work currently being conducted as park acquires more land).	- Update GIS layers to reflect results of park bat survey. - Understand the conditions and locations of park populations to determine how management and other factors have the potential to affect them. - Research BMPs and conservation practices to integrate into park management activities. - Cross-reference threatened and endangered species activities with use of historic buildings and those structures targeted for removal. - Incorporate into park interpretation efforts. - Ensure that attics are investigated for threatened/endangered species such as bats, and ensure removal is sensitive to their roosting times. - Opportunistically sample bat populations for mercury contamination.

ONGOING IMPLEMENTATION OF THE RESOURCE STEWARDSHIP STRATEGY

The stewardship goals, activities, and other pertinent information of the resource stewardship strategy is managed and updated regularly using the RSS desktop application. This information will assist resource managers in determining what, how, when, and where resource management occurs in the parks, and assist the parks' resource management staff in developing annual work plans. These work plans will be an important planning tool for park staff to determine what they will be able to realistically tackle over the coming years.

Long-term implementation of the resource stewardship strategy includes park managers monitoring resource information and conditions, and evaluating the effectiveness of resource stewardship strategies over time. Regular monitoring of RSS progress will provide park managers an opportunity to evaluate whether the stewardship strategies are making progress and consider whether adjustments as needed. See figure 1 for more information on the cyclical nature of this process. In addition, routine communication with the public is another important aspect of the implementation process. These outreach efforts are intended to improve public awareness about the science and strategies used to protect the park's diverse resources and values over time.

Figure 1: RSS Implementation Cycle



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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic 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 US administration.

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