NATURAL RESOURCES MANAGEMENT MANUAL

Fredericksburg and Spotsylvania
National Military Park

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(10/93)

United States Department of the Interior

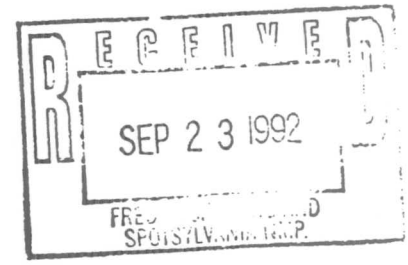
NATIONAL PARK SERVICE
Mid-Atlantic Region
143 South Third Street
Philadelphia, PA 19106

IN REPLY REFER TO:

TAKE PRIDE IN AMERICA

N22(MAR-MR)

SEP 18 1992



Memorandum

To: Superintendent, FRSP

From: Acting Regional Director, MAR

Subject: Resource Management Plan

Enclosed is your approved and signed Resource Management Plan (RMP). We commend you for the high quality of this document. It is obvious that a considerable amount of time and thought has been put into the document. You may also be interested to know that yours is the first RMP approved under the new 1992 software format and guidelines.

We have also enclosed the comments provided on this plan by the WASO and MARO staffs. Please incorporate these into your next update of the RMP as appropriate. The next update will be due in two years.

Charles P. Cogswell for

Joseph W. Gordell

Enclosures

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INTRODUCTION

The purpose of this Resources Management Plan is to provide a guide for the continuous protection, management, and maintenance of the park's cultural and natural resources. The plan is an action statement to implement the recommendations of the General Management Plan as they pertain to those resources. The plan is a flexible decision-making tool which may be updated, revised, and supplemented to meet the needs of the park and the surrounding area.

Fredericksburg and Spotsylvania National Military Park is comprised of four separate Civil War battlefields--Fredericksburg, Chancellorsville, Wilderness, and Spotsylvania Court House--and four related sites--Salem Church, Stonewall Jackson Shrine, Chatham Manor, and the Fredericksburg National Cemetery. The park has an authorized acreage of 7,764, of which 6,042 acres, scattered across four counties and a city, are now under Federal fee ownership or easement.

The Federal government first moved to recognize those who fought and died on the four battlefields when it established the Fredericksburg National Cemetery on July 15, 1865, in accordance with the National Cemetery Act of July 17, 1862. The War Department administered the cemetery as a landscaped memorial and to "secure, as far as possible, the decent interment..." of fallen Federal soldiers. A few veterans from American wars after the Civil War are buried here. However, the vast majority of the dead, more than 15,000 of them, are casualties of the great sectional struggle.

The next Federal effort reached fruition on February 14, 1927, when Congress established the Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park to:

> ...commemorate the Civil War battles of Fredericksburg, Spotsylvania Court House, Wilderness, and Chancellorsville...and to mark and preserve for historical purposes the breastworks, earthworks, gun emplacements, walls, or other defenses or shelters...used by the armies...and together also with such additional land as the Secretary of War may deem necessary for monuments, markers, [and] tablets...and to carry out the general purpose of this act...[and] to make the historical points accessible....

By Executive Order 6166 in 1933, control of the park was transferred from the War Department to the National Park Service. Thus the purpose of Fredericksburg and Spotsylvania was further clarified by the Act of 1916 establishing the Service, which stated that the parks system would be administered "...to conserve the scenery and natural and historic objects and wildlife therein..." and to provide for the enjoyment of same "...in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Finally, the Historic Sites Act of 1935 directed that the National Park Service should help implement "...a national policy to preserve for public use historic sites, buildings and objects of national significance...." Boundary legislation in 1989 changed the park's boundary without affecting its mission.

Based upon the above legislation and other considerations, the General Management Plan (approved 1986) for Fredericksburg and Spotsylvania established the following general resources management objectives:

1. Manage the natural resources of the park in a manner that complements the [historical] purpose of the park.

2. Screen park resources from visual intrusions.

3. Identify, evaluate, protect, maintain, and interpret the park's cultural resources to preserve their original fabric and workmanship and, where necessary, stabilize and rehabilitate them in a manner consistent with legislative mandates and NPS policies.

4. Professionally catalog, store, exhibit, and preserve the park's artifact collection.

5. Create visitor appreciation for the historical environmental conditions and scenes on the battlefields, by removing or adding vegetation in areas of great historical significance and high interpretive value, to the extent possible, to duplicate as closely as possible the scene during the 1860s within the historic zone.

6. Protect earthworks, road traces, and other battle-related features from damaging change caused by either natural or human forces, by selective vegetation management and limiting access to them.

7. Through the General Management Plan, develop guidelines that can be presented as recommendation to local governing bodies that will, if implemented, provide the park with a minimum level of protection from surrounding land use changes.

8. Identify and protect by appropriate means a resource base adequate for preservation, management, and public use of the battlefields and associated historic resources.

9. Augment the protection of park resources and the needs of park visitors by means of cooperation with all organizations, interests, and individuals that may have an impact on the park.

10. Protect park resources from unlawful and injurious activities such as relic hunting, poaching, and vandalism by an active program of education and law enforcement.

The park's Statement for Management (prepared 1991) reiterated these objectives and the importance of encouraging the protection of related lands, which contain "more than half of the resources relating to the mission of the park" and have impact or potential impact on the remaining half, lying within the park.

Resources Management functions in the park were discharged as collateral duties by the Chief Historian (CRM) and the Chief Ranger (NRM) for the first sixty years of its existence. Only in the mid-1980s did the first Resources Management Specialist take up specific duties on the park's staff, and then with an exclusively natural science background and mission. The Chief Historian and his staff continued to bear CRM responsibility in a general fashion until the spring of 1991, when the park's first-ever CRM Specialist came on board. This current Resources Management Plan breaks ground as the production of both CRM and NRM specialists, producing separate project statements as well as joint integrated project statements.

This document is currently under review by the Virginia State Historic Preservation Officer.

PRESENT RESOURCE STATUS

NATURAL RESOURCE BASELINE INFORMATION

Natural resource inventorying and monitoring is primarily limited to the ecological impacts associated with the active historic scene restoration program. Progress has been made in implementing scientific baseline Inventory & Monitoring projects for the park's physical properties, biological components, and human use activities.

Beginning in 1988, a five year Forest Management Study was initiated. When completed, it will provide a comprehensive database on the distribution, health, and composition of forest tree stands and existing hazard fuel conditions. Meteorological monitoring has been conducted for the past seven years. This data is entered into the park's fire danger rating system to determine wildfire potential. The park currently lacks a thorough inventory of plants or wildlife. Limited surveys of Rare, Threatened, and Endangered Species have been done as needed to meet NEPA compliance when executing historic scene restorations. Soils, aerial photography, 1:24000 USGS maps, and boundary maps exist and will be entered into a Geographic Information System when one becomes available.

The following Tables list the park's current status on Inventory and Monitoring of baseline data. Baseline data is described as either meeting or not meeting the minimal standards as established in the servicewide "Standards for Natural Resources Inventorying and Monitoring," NPS-75. Where it has been identified that baseline information does not meet the minimum standard, a project statement to meet this need has been prepared.

FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK
ASSESSMENT OF EXISTING INVENTORYING & MONITORING PROGRAMS

Function	Level of Effort: Below Standard	Meets Standard
Chemical Inventorying & Monitoring		
Surface Waters	X	
Atmospheric Deposition	X	
Geo-Physical Inventorying & Monitoring		
Natural event records	X	
Develop Maps:		
Imagery from satellites	X	
Topographic		X
Geology:		
Geologic Maps	X	
Soils		X
Physical geology, mineralogy and soils:		
Soil analysis	X	
Sediment transport	X	
Principle mineral composition	X	
Geo-hazards	X	
Hydrology:		
Develop watershed maps		X
Inventory through description:		
Streams		X
Wetlands	X	
Groundwater	X	
Measure physical parameters:		
Temperature	X	
Turbidity	X	
Stage and discharge	X	
Create hydrologic models of surface water	X	
Meteorology		
Indicate meteorological parameters:		
Precipitation		X
Air temperature		X
Atmospheric conditions (e.g. RH, wind direction, etc.)		X
Biological Inventorying & Monitoring		
Historical database	X	
Species:		
Inventory of vascular plants including distribution	X	
Inventory of mammals, birds, fish, amphibians and reptiles including distribution	X	
Listing of species that are threatened, endangered, endemic or non-native	X	
Distribution map of plant and animal species	X	

Function	Level of Effort: Below Standard	Meets Standard
Populations:		
For selected species:		
Distribution	X	
Population size/density/cover	X	
Age/stage/size class structure	X	
Growth/recruitment/productivity mortality	X	
Communities		
Vegetation/land cover map		X
Integration		
Qualitative community descriptions to correspond with vegetation map	X	
Geography:		
Location of resources associated with an appropriate base map series and coordinate system	X	
Resources mapped accurately to GIS standards	X	
Accurate and comprehensive representation of park landscape (e.g. satellite, aerial photography, survey as appropriate)	X	
Human Use		
Event Records		X
Maps:		
Develop maps to indicate present areas of use	X	
Develop maps to indicate past areas of use		X
Human Activities:		
Identify each type of activity present (e.g. farming, grazing, residential, recreation,etc.)		X
Quantify the identified activities (e.g., yield/acre, density, number of visitors)		X
Ownership:		
Identify whether ownership is public or private		X
Indicate owner for each area		X
Demography		X
Domestic Animals (e.g., livestock, and others)		X
Legal Matters:		
Cite acts, regulations, policies, etc.		X
Indicate management activities and planning		X
Education Activities		X
Regional Land Use Planning		X
Other Social Sciences Studies:		
List any human studies taking place		X
List any econometric studies taking place		X

NATURAL RESOURCES

In physical situation and environment, the Fredericksburg & Spotsylvania National Military Park is a patchwork of parkland located in the Rappahannock and York River basins, supporting an eastern North American riparian and woodland habitat on a substrate of the Appalachian Piedmont and the Atlantic Coastal Plain; providing rich forests and wetlands, developed parkland, farmsteads, and historic landscapes. It contains about 8,000 acres.

There are two distinct land form provinces that control the topography of FRSP: the Appalachian Piedmont, composed of hard crystalline rocks, producing narrow to moderately broad ridges and gentle to steep side slopes along streams; and the Atlantic Coastal Plain, composed of soft sedimentary rocks, producing flat terraces and wetlands.

The waters of the Rappahannock, Rapidan, Ni and Po Rivers, and their tributaries are a major element of the natural system affecting the park. The importance of water to all life, its effect on the terrain, and transporter of natural and urban materials, and its intrinsic aesthetic value all demonstrate water's importance to FRSP. Portions of 15 fresh water streams, numerous beaver ponds and wetlands are under park administration.

Basic to NPS policy, guidelines, and the Chesapeake Bay Act, is the protection of all water resources from pollution and destruction. The watersheds of streams crossing parkland drain residential and urban development, agricultural lands, and mixed-use activities, contributing water of unknown quantity and guality.

Forests are a renewable resource in a state of constant regeneration. Mandated to preserve historic woodlands in and around battlefields, FRSP contains a complex eastern deciduous forest. Dominant tree species are Virginia pine, white and red oak, sweetgum, tulip poplar, black locust, silver and red maple, sycamore, boxelder. Some scattered groves of american beech, mockernut and pignut hickory, black walnut, green ash, and river birch are also present. The majority of individual trees are less than 10 inches DBH and overall density ranges from 100 to 600 stem/acre. A few stands of old growth white and red oaks are present at the park battlefields. Common understory trees include flowering dogwood, american holly, mountain laurel, spicebush, redbud, ironwood, and american hornbeam. Honeysuckle, poison ivy, and huckleberry are common in the understory.

Since woodlands have been repeatedly disturbed, opportunistic exotic plants have invaded the native woodlands, and in some cases, reached possible problem stages. These problem plants are: japanese honeysuckle, english ivy, kudzu vine, princess tree, ailanthus, vinca, and mimosa.

Excellent wildflower habitat is located along the gentle slopes and floodplains of the Ni River and Wilderness Run. These slopes and numerous wetland habitats found in the park support the highest biodiversity of flora and fauna.

Wildlife is analogous to forests and wetlands in that fauna require life's basic criteria of food, shelter, and water, and are in a constant state of change and regeneration. Because of the physical condition of the park, it does not offer extensive ranges for terrestrial animals. Mammal populations are dominated by those individuals adaptable to changing environments or confined ranges. Flourishing mammals are deer, raccoon, opossum, skunk, groundhog, and squirrel. Mammals of confined range are mouse, shrew, mole, muskrat, river otter, and beaver. Birds in this dynamic setting are equally affected. Bird species along the forest edge and surrounding developments are dominated by starlings, european sparrows, rock doves and crows, at the expense of eastern bluebirds and hawks. One notable bird habitat, the Ni River swamp, does support a diverse population of resident and migrating species including a large great blue heron rookery.

FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK

CULTURAL RESOURCE BASELINE INFORMATION

Cultural Resource Documentation Checklist

TITLE	CURRENT AND APPROVED	INCOMPLETE; NEEDS REVISION OR UPDATING	NEEDED
PLANNING DOCUMENTS			
Preauthorization and Authorization	X		
Statement for Management (SFM)	X		
Outline of Planning Requirements (OPR)	X		
General Management Plan (GMP)	X		
Development Concept Plan (DCP)			X
Resources Management Plan (RMP)		X	
Interpretive Prospectus (IP)		X	
Serviceswide Inventories, Lists, Catalogs, and Registers			
Cultural Resources Bibliography (CRBIB)		X	
Cultural Sites Inventory (CSI)			X
List of Classified Structures (LCS)		X	
National Catalog of Museum Objects		X	
National Register of Historic Places		X	
Basic Cultural Resource Documents			
Archeological Overview and Assessment			X
Archeological Identification Studies		X	
Archeological Evaluation Studies			X

FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK

CULTURAL RESOURCE BASELINE INFORMATION

Cultural Resource Documentation Checklist

TITLE	CURRENT AND APPROVED	INCOMPLETE; NEEDS REVISION OR UPDATING	NEEDED
Basic Cultural Resource Documents (cont.)			
Ethnographic Overview & Assessment			
Oral Histories & Life Histories			X
Ethnographic Program			
Historical Base Maps		X	
Historic Resource Study (HRS)		X	
Park Administrative History			X
Scope of Collection Statement		X	
Special Resource Studies And Plans			
Archeological & Ethno. Collection Studies			X
Archeological Data Recovery Studies			X
Collection Management Plan			X
Collection Storage Plan			X
Collection Condition Survey		X	
Cultural Landscape Report (CLR)			X
Ethnohistory			
Exhibit Plan			X
Historic Furnishings Report		X	
Historic Structure Preservation Guide (HSPG)		X	
Historic Structure Report		X	
Social Impact Study			
Special History Study			X
Traditional Use Study			

Cultural Resources

Significance:

The Civil War of 1861-65 remains a central drama in our nation's heritage. A greater percentage of Americans were directly involved in this transitional era than any other American war of the past. The ghastly toll of more than 600,000 dead brought the tragedy of war home to more families than those who have suffered the loss of servicemen in all of the rest of U.S. wars combined. The total casualties suffered during the four years of fighting around Fredericksburg amounted to about 100,000. The park's structures, objects, archeological sites, and cultural landscapes contained within four battlefields are the primary tools with which this vast loss, along with the experiences of civilians trapped in the local combat zones, is now commemorated and interpreted.

These cultural resources are also significant as the primary tools with which the tactical and mechanical aspects of the four battles are interpreted. Confederate General Robert E. Lee's defense against Union General Ambrose Burnside's unimaginative and uninspired leadership in the December 13, 1862, Battle of Fredericksburg is often considered the former commander's easiest victory of the war; the resulting gloom which settled over the Northern army represents its nadir. On the other side of this coin is Union General Joseph Hooker's bold plan of May 1863, which culminated in the Battle of Chancellorsville. Outnumbered two to one, Lee met Hooker's pincer maneuver with audacious counterattacks, which stunned the latter into inactivity but also resulted in the mortal wounding of Lee's brilliant subordinate, General T. J. "Stonewall" Jackson. Union General U. S. Grant's unimaginative but ponderous blows at the Battle of the Wilderness and Spotsylvania Court House in May 1864 finally destroyed the offensive power of Lee's army. Between December 1862 and May 1864, moreover, the two armies abandoned much of their Napoleonic pageantry in favor of tactics more reminiscent of 20th Century warfare.

Status of Cultural Landscapes:

Documentation for all of the 30-odd cultural landscapes at Fredericksburg and Spotsylvania is "good," and work on preparing a Cultural Landscape Report has been initiated by the park and the regional office. There are more landscapes in "poor" condition than in any other category, largely because of the prevalence of non-historic vegetation. Impacts, as defined in the RMP Guideline, are mostly "low," although several key landscapes are threatened by intrusions of the "severe" variety where development of privately-owned adjacent lands is likely.

Cultural Context/Theme

The park's cultural resources represent the following significant cultural contexts and themes (as listed in History and Prehistory in the National Park System...):

THE CIVIL WAR (War in the East) -

cultural landscapes shaped by and/or which served as the setting for battles; structures--including extensive earthworks--which were erected during, impacted by, and/or functioned as key landmarks during battles; ruins/archeological sites which, as intact structures, were impacted by and/or functioned as key landmarks during battles; collections of ammunition, documents, uniforms, weapons, and other objects generated during the Civil War or used by soldiers who fought in that conflict.

BUSINESS (Extractive and Mining Industries) -

cultural landscapes shaped in part by extensive mining and timbering, 1715-1927; ruins/archeological sites of furnaces, mines, and sawmills; collections of documents and objects produced or used at Colonial and ante-bellum furnaces.

TRANSPORTATION (Roads, Turnpikes, and Taverns) -

bridge abutments and traces of roads and turnpike; ruins/ archeological sites of taverns, collections of objects generated by tavern operations.

ARCHITECTURE -

National Cemetery; historic structures in the Georgian, Federal, Early Gothic, and vernacular styles.

LANDSCAPE ARCHITECTURE -

reconstructed formal garden; remnants (terraces) or formal gardens.

AGRICULTURE (Plantation Agriculture) -

cultural landscapes shaped in part by plantation agriculture; structures once used by plantation residents; ruins/archeological sites which, as intact structures, were once used by plantation residents; collections of objects used by plantation residents.

TECHNOLOGY (Transportation, Military, Extraction, and Conversion) See resources listed above under: "THE CIVIL WAR," "AGRICULTURE," "BUSINESS" AND "TRANSPORTATION."

PRINTS AND PHOTOGRAPHY:

collection of original negatives, prints, and lantern slides depicting battlefields and Civil War veterans, 1870-1950.

DECORATIVE AND FOLK ART:

collection of original portraits, landscapes, and other forms of decorative art depicting Civil War subjects.

AMERICAN WAYS OF LIFE (Farming Communities, Slavery and Plantation Life) -

See resources listed above under: "AGRICULTURE."

HISTORIC PRESERVATION (Battlefield Preservation, The National Park Service and the New Deal) -

cultural landscapes shaped in part by the establishment of the park by the United States War Department and the expansion of the park by the National Park Service; structures in the park erected or used by Civilian Conservation Corps, National Park Service, and War Department personnel; collections of documents--including photographs--and objects generated by the establishment and expansion of the park.

SUMMARY CHART FOR CULTURAL LANDSCAPES

Significance		Condition				Impacts				Documentation		
		Good	Fair	Poor	Unknown	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National												
State & Regional												
Local												
Not Evaluated	30	7	10	13		5		25		30		
TOTALS	30	7	10	13		5		25		30		

SUMMARY CHART FOR STRUCTURES

Significance		Condition				Impacts				Documentation		
		Good	Fair	Poor	Unknown	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National	97	45	49	3		2	5	90		20	77	
State & Regional												
Local												
Not Evaluated	35		32	3			3	32		10	15	10
TOTALS	132	45	81	6		2	8	122		30	92	10

SUMMARY CHART FOR ARCHEOLOGICAL SITES

Significance		Condition					Impacts				Documentation		
		Good	Fair	Poor	Des-troyed	Unk.	Severe	Moderate	Low	Unknown	Good	Fair	Poor
National													
State & Regional													
Local													
Not Evaluated	35	20	10			5		5	25	5	3	22	10
TOTALS	35	20	10			5		5	25	5	3	22	10

SUMMARY CHART FOR OBJECTS (Continued)

CONDITION	Archeology	Ethnology	History	Archives	Biology	Paleontology	Geology
Excellent	34%		10%	7.5%			
Good	21%		59%	62.5%			
Fair	39%		26%	25.0%			
Poor	6%		5%	5.0%			
Unknown							

SUMMARY CHART FOR OBJECTS

DOCUMENTATION	Archeology	Ethnology	History	Archives	Biology	Paleontology	Geology	TOTALS
Registration Date Only								
Registration & Catalog Data	15,647		1,930	1,717				19,294
Total Items Cataloged	15,647		1,930	1,717				19,294
Backlog to be Cataloged	(10,687)		569	299				(11,555)
Total Collection Summary	(26,334)		2,499	2,016				(30,849)

RESOURCES MANAGEMENT PROGRAM

OVERVIEW OF CURRENT PROGRAM AND NEEDS

This section presents brief discussions on each of the significant resource management challenges identified for the park. The park, a nationally significant historic area contains many fine examples of both cultural and natural resources. The focus of resource managers is to adhere to nationally accepted standards for resource preservation and to enhance the interpretation of historic values, especially battlefield landscapes. This mission requires close cooperation between resource management specialists, historians, interpreters, protection rangers, and maintenance personnel, which is evidenced within the body of this chapter by the inclusion of several Integrated Project Statements.

Cultural Resource Management

Five of the park's funded cultural and integrated projects are of primary importance. Two of these, "Monitoring and Stabilization of Historic Structures" and "Placement of Museum Records on ANCS," are yielding satisfactory results, largely because of the presence of a full-time Restoration Specialist and a part-time Curator. Nevertheless, both projects, which address the servicewide issues of inadequate preservation maintenance; control of visitor impacts; inadequate cultural resources monitoring programs; and incomplete cataloging, still require substantial outlays. The "Monitoring and Stabilization" effort, for example, needs a formal program of cyclic treatments and must also address newly-discovered challenges or threats. Of the other "primary" funded projects, the "Conservation and Protection of Museum Collection" effort requires increased outlays for improved climate control, security, and storage equipment; the "Prevention of Illegal Relic Hunting" effort requires increased outlays for a new deterrence measure to supplement those already in place; and the "Investigation and Stabilization of Earthworks" effort requires increased outlays for both an expanded historical database and more effective mitigation of a variety of threats. Under current funding levels for the last three projects, the park inadequately addresses the following servicewide issues: need for conservation treatment, inadequate storage and environmental controls, inadequate security, control of environmental impacts, and control of visitor impacts.

Three of the park's unfunded cultural and integrated projects are of primary importance. Of these, the "Rehabilitation of Ellwood" effort has by far the highest priority. The protracted absence of funding for this project is extremely unfortunate, given the building's interpretive potential and the threats arrayed against it. A second primary unfunded project is the "Restoration of Historic Ground Cover" effort. While far from complete, this produced laudable interpretive results while funding lasted, but the park now needs a renewed commitment to insure that those results are expanded, not lost. The third unfunded project in this category is the "Investigation, Stabilization, and Protection of Archeological Resources" effort, which is necessary for the implementation of the "Prevention of Illegal Relic Hunting" and "Restoration of Historic Ground Cover" resources management projects and several interpretive projects as well. Servicewide issues addressed by these three projects are: need for rehabilitation of historic structures, need for restoration of cultural landscapes, and inadequate archeological surveys.

Three additional funded cultural and integrated projects are of secondary importance. Two of these, the "Establishment of a Cultural Resource Archives" and "Investigation of Potentially Non-Historic Sites and Structures" efforts, are yielding satisfactory results, partly because of a creative use of skilled intern labor. The latter, project, in fact, is nearly completed. The former project, however, will need increased outlays for renovation and archival storage equipment. Moreover, a third project in this category, the "Establishment of an Oral History Program" effort, is now conducted only intermittently. An increase in outlays would enhance the ability of oral history to contribute to an array of cultural resources and interpretive efforts. Servicewide issues addressed by these three projects are: inadequate inventory and storage of cultural resources records, inadequate LCS, and need for oral histories.

Four additional unfunded cultural and integrated projects are of secondary importance. The "Expansion of Area Covered by Historical Overlay Maps" effort would quickly and effectively fill the park's two major historical-landscape documentation gaps. The "Investigation and Marking of Civil War-era Road Traces" effort would identify and protect one of the park's most under-utilized collections of cultural resources. The "Development of Dump Inventory System and Removal Process" effort would identify and prioritize dumps for removal from the historic landscape. The fourth project in this category "Management of Specimen Trees" would inventory historically significant trees and make recommendations for their propagation and protection. Servicewide issues addressed by these projects are: threats to cultural landscapes and viewsheds, inadequate LCS, need for historic resource studies, and inadequate preservation maintenance program.

Natural Resource Management

As evident in the following tables and project statements, the levels of funding and staffing have been inadequate to support the required effort to implement many of the division's programs. However, as time and money permits, current management is proceeding with developing action plans and data acquisition activities.

One of the highest priorities of resource managers is the mitigation of impacts associated with rapid population growth and development adjacent park boundaries. The lack of thorough knowledge of the park's resources and the inability to monitor their condition in relation to development activities, is the clearest threat to the values of the park. The park will continue to seek funding to implement a comprehensive Geographic Information System to monitor park resources and the dynamic conditions occurring adjacent to its boundaries.

In 1989, the park experienced its first defoliation from the invasion of the exotic Gypsy Moth. A Gypsy Moth Management Plan was written and approved prior to interdiction actions. Currently, management action is directed at the implementation of an Integrated Pest Management Program to control pest damage to the cultural and natural resources of the park (Biological Evaluation, U.S. Forest Service, 1991). The need for funding such a program is based on an annual evaluation of pest populations and is supported by the U.S. Forest Service Pest Management Division, Asheville, NC.

Gathering of critical baseline data has been identified as a primary servicewide issue in ten of the park's natural & integrated project statements. The acquisition of raw data as outlined in the previous section, "Baseline Information," is the focus of most resource projects, especially in addressing the following issues: wetlands, air & water quality, sensitive species and habitats; inventorying and monitoring the impacts of historic scene restorations, agriculture, and residential development related to natural resources. Partially funded efforts initiated by park staff are providing results, but are solely dependent on the availability of temporary or volunteer staff. Project statements that address this issue are: "Integrated Pest Management Program," "Manage/Protect Wetlands," "Manage/Protect Water Resources," "Develop Prescribed Fire Program," and "Manage Gypsy Moth." One project not mentioned in this plan that addresses this data shortage, is a four year study funded through NRPP to develop forest inventory and management plans for the four battlefields within the park. The Spotsylvania Battlefield plan was completed in 1991 (Orwig & Abrams, June 1991). Tiered to this forest management plan is the proposal for baseline information on floral communities as identified in project statement "Develop Natural Resource Baseline Inventory of Floral Communities." This project is essential for identification and protection of threatened, endangered, or sensitive species of state and federal significance.

The project statement "Abatement of Tree Hazards" is funded at levels to maintain visitor safety but could use additional staffing to maximize inspection efficiency. Currently, hazard trees are identified and actions are taken to correct hazardous conditions on an as needed basis.

Unfunded projects to "Stabilize Rappahannock Riverbank," "Develop Open Fields Management Plan," "Prepare Landscape Planting and Maintenance Plans," and "Develop Trail Management Plan," address conditions of deteriorated physical resources that support basic park historic themes as well as basic visitor access and recreation. A number of servicewide issues are addressed by these efforts and may be found listed with each project statement.

The park is dedicated to implementing a "Low-Impact Sustained Agriculture Program." The project to improve and upgrade agriculture practices under current funding levels inadequately addresses the following servicewide issues: need for cultural landscape report, need for rehabilitation or restoration of cultural landscape, and loss of park resources due to consumptive practices. Managing the agricultural leasing program requires additional outlays to stay abreast of recent farm legislation, Chesapeake Bay Act restrictions, Soil Conservation Service requirements, and ability to monitor compatibility of such practices with preservation of archeological and historic resources.

Two additional unfunded natural projects are of secondary importance. The project "Evaluate Validity of Mineral Rights and Development Potential" would provide park management with knowledge on potential threats from exploration of hard rock or petroleum products. The "Initiate an Inventory and Monitor Program for Wildlife" effort would identify and protect one of the least studied natural resources in the park.

LIST OF PROJECT STATEMENTS

Project statement numbers were reassigned for the update of this plan. Many statements were added or changed from the approved 1984 Plan. In addition there is a list of newly created integrated cultural and natural resource management statements.

Project #	Project Statement Title
FRSP-I-001.001	Investigation and Stabilization of Earthworks
FRSP-I-002.002	Restoration of Historic Ground Cover
FRSP-I-003.003	Establish Geographic Information System for Monitoring Resources & Land Use
FRSP-I-004.004	Develop Refuse Dump Inventory System and Removal Process
FRSP-I-005.005	Integrated Pest Management Program
FRSP-I-006.006	Stabilize Rappahannock Riverbank
FRSP-I-007.007	Manage Specimen Trees
FRSP-I-008.008	Develop Open Fields Management Plan
FRSP-I-009.009	Prepare an Approved Landscape Planting and Maintenance Plans for all Park Roadways and Vegetative Buffers
FRSP-I-010.010	Manage Agricultural Special Use Permits
FRSP-C-001.011	Rehabilitation of Ellwood
FRSP-C-002.012	Monitoring and Preservation Maintenance of Historic Structures
FRSP-C-003.013	Conservation and Protection of Museum Collection
FRSP-C-004.014	Placement of Museum Records on ANCS
FRSP-C-005.015	Investigation, Stabilization, and Protection of Archeological Resources
FRSP-C-006.016	Expansion of Area Covered by Historical Overlay Maps
FRSP-C-007.017	Establishment of A Cultural Resources Archives
FRSP-C-008.018	Investigation and Marking of Historic Road Traces
FRSP-C-009.019	Establishment of An Oral History Program
FRSP-C-010.020	Investigation of Potentially Non-Historic Sites and Structures

PROGRAMMING SHEET 1
NATURAL and CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
($ in thousands)

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
001.001	INVESTIGATION AND STABILIZATION OF EARTHWORKS	227	STRC C17 C18		PKBASE-CR	RES	4.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	4.00	0.1
					PKBASE-CR	MIT	35.00	1.2	0.0	0.0	0.0	0.0	0.0	0.0	35.00	1.2
					Subtotal		39.00	1.3	0.00	0.0	0.00	0.0	0.00	0.0	39.00	1.3
002.002	RESTORATION OF HISTORIC GROUND COVER	229	CULL C13 C17		No data											
003.003	ESTABISH GIS FOR MONITORING RESOURCES AND LAND USE		COMB N20 C22		No data											
004.004	DEVELOP REFUSE DUMP INVENTORY SYS & REMOVAL PROCESS		COMB C26 N16		No data											
005.005	INTEGRATED PEST MANAGEMENT PROGRAM		COMB C12 C17		PKBASE-NR	MON	4.00	0.1	4.00	0.1	4.00	0.1	4.00	0.1	16.00	0.4
006.006	STUDY AND MONITOR RAPPAHANNOCK RIVERBANK		COMB N20 N08		TEMP$-NR	MON	3.00	0.1	3.00	0.1	3.00	0.1	3.00	0.1	12.00	0.4
007.007	MANAGE SPECIMEN TREES		CULL N20 C12		No data											
008.008	DEVELOP OPEN FIELDS MANAGEMENT PLAN	156	CULL C11 C17		PKBASE-OT	MIT	35.00	1.0	35.00	1.0	35.00	1.0	40.00	1.0	145.00	4.0
009.009	PREPARE AN APPROVED LANDSCAPE PLANTING & MAINT PLAN	156	CULL N16 C11		No data											
010.010	MANAGE AGRICULTURAL SPECIAL USE PERMITS		CULL C11 N19		SPECIAL-$	MON	5.00	0.1	5.00	0.1	5.00	0.1	5.00	0.1	20.00	0.4

10 projects printed

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PROGRAMMING SHEET 1
NATURAL and CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
($ in thousands)

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
					Grand Total		86.00	2.6	47.00	1.3	47.00	1.3	52.00	1.3	232.00	6.5

End of data

PROGRAMMING SHEET 1
CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
($ in thousands)

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
001.011	REHABILITATION OF ELLWOOD	228	STRC C05 C13		No data											
002.012	MONITORING AND STABILIZATION OF HISTORIC STRUCTURES		STRC C12 C18		PKBASE-CR	MIT	60.00	0.9	0.0	0.0	0.0	0.0	0.0	0.0	60.00	0.9
					RG-CR-MTN	RES	5.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.1
					RG-CR-MTN	MIT	20.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.1
					Subtotal		85.00	1.1	0.00	0.0	0.00	0.0	0.00	0.0	85.00	1.1
003.013	CONSERVATION AND PROTECTION OF MUSEUM COLLECTION		OBJC C16 C20		PKBASE-CR	MIT	12.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	12.00	0.3
					RG-CR-MTN	MIT	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0
					Subtotal		17.00	0.3	0.00	0.0	0.00	0.0	0.00	0.0	17.00	0.3
004.014	PLACEMENT OF MUSEUM RECORDS ON ANCS		OBJC C03		NON-NPS-O	RES	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0
	INVESTIGATE, STABILIZATION, & PROTEC. OF ARCH. RES.		SITE C02 C07		No data											
006.016	EXPANSION OF AREA COVERED BY HIST. OVERLAY MAPS		COMB C08 C22		No data											
007.017	ESTABLISHMENT OF A CULTURAL RESOURCES ARCHIVES		OBJC C26		PKBASE-CR	MIT	8.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	8.00	0.3
					NON-NPS-O	MIT	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.00	0.0
					Subtotal		10.00	0.3	0.00	0.0	0.00	0.0	0.00	0.0	10.00	0.3
008.018	INVESTIGATION & MARKING OF CIVIL WAR-ERA RD TRACES		STRC C07 C08		No data											
009.019	ESTABLISHMENT OF AN ORAL HISTORY PROGRAM		C04		PKBASE-CR	RES	3.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.00	0.1
010.020	INVESTIGATION OF POTENTIALLY NONHIST. SITES & STRUC		COMB C02 C07		NON-NPS-O	RES	3.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.00	0.1

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PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE
001.022	DEVELOP NATURAL RES. BASE INVENTORY OF FLORA COMMUN			N20 N03	No data											
002.023	MANAGE/PROTECT WATER RESOURCES		COMB	N11 N20	PKBASE-NR	MON	1.00	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.1
003.024	MANAGE/PROTECT WETLANDS		CULL	N06 N20	PKBASE-NR	MON	2.00	0.1	2.00	0.1	2.00	0.1	2.00	0.1	8.00	0.4
004.025	ABATEMENT OF TREE HAZARDS		COMB	N22	PKBASE-OT	MIT	60.00	1.5	60.00	1.5	60.00	1.5	60.00	1.5	240.00	6.0
005.026	DEVELOP FIRE MGMT PROGRAM TO INCL. RX FIRE COMP		COMB	N20 N08	FIRE-$	MIT	4.00	0.0	4.00	0.0	4.00	0.0	4.00	0.0	16.00	0.0
006.027	INVENTORY AND MONITOR WILDLIFE PROGRAM		COMB	N20 N02	No data											
007.028	PROTECT AIR QUALITY RELATED VALUES		COMB	N14 N20	No data											
008.029	MANAGE GYPSY MOTH INTEGRATED PEST MGMT PROGRAM		CULL	N04 N08	FED-OTHER	MON	11.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.00	0.0
					FED-OTHER	MIT	15.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.00	0.0
					Subtotal		26.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	26.00	0.0
009.030	EVAL. VALIDITY OF MINERAL RIGHTS & DEVEL. POTENTIAL		OBJC	N10 N20	No data											
010.031	DEVELOP TRAIL MANAGEMENT PROGRAM	225	COMB	N22 C18	No data											
011.032	DEVELOP EXOTIC PLANT MANAGEMENT PROGRAM		COMB	N05 N08	No data											
11 projects printed					Grand Total		93.00	1.7	66.00	1.6	66.00	1.6	66.00	1.6	291.00	6.5

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PROGRAMMING SHEET 1
NATURAL
CURRENT YEAR FUNDED ACTIVITIES
($ in thousands)

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1993 $$	CURRENT YEAR 1993 FTE	OUTYEAR 1 1994 $$	OUTYEAR 1 1994 FTE	OUTYEAR 2 1995 $$	OUTYEAR 2 1995 FTE	OUTYEAR 3 1996 $$	OUTYEAR 3 1996 FTE	TOTAL $$	TOTAL FTE

End of data

PROGRAMMING SHEET 2
NATURAL and CULTURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	001.001	INVESTIGATIO N AND STABILIZATIO N OF EARTHWORKS	227	STRC C17 C18		PKBASE-CR	RES	0.0	0.0	4.00	0.1	5.00	0.1	5.00	0.1	14.00	0.3
						PKBASE-CR	MIT	0.0	0.0	45.00	1.7	48.00	1.7	51.00	1.7	144.00	5.1
						RG-CR-MTN	MIT	0.0	0.0	20.00	0.0	20.00	0.0	20.00	0.0	60.00	0.0
						FIRE-$	MIT	0.0	0.0	10.00	0.0	0.0	0.0	0.0	0.0	10.00	0.0
						PKBASE-NR	MIT	0.0	0.0	0.0	0.0	10.00	0.1	10.00	0.1	20.00	0.2
						Subtotal		0.00	0.0	79.00	1.8	83.00	1.9	86.00	1.9	248.00	5.6
2	002.002	RESTORATION OF HISTORIC GROUND COVER	229	CULL C13 C17		PKBASE-CR	MON	4.00	0.1	4.00	0.1	5.00	0.1	5.00	0.1	18.00	0.4
						PKBASE-CR	MIT	0.0	0.0	15.00	0.5	15.00	0.5	25.00	0.6	55.00	1.6
						RG-CR-MTN	MIT	0.0	0.0	30.00	0.0	30.00	0.0	30.00	0.0	90.00	0.0
						FIRE-$	MIT	0.0	0.0	4.00	0.0	4.00	0.0	4.00	0.0	12.00	0.0
						Subtotal		4.00	0.1	53.00	0.6	54.00	0.6	64.00	0.7	175.00	2.0
3	003.003	ESTABLISH GIS FOR MONITORING RESOURCES AND LAND USE		COMB N20 C22		GIS	RES	25.00	1.0	0.0	0.0	0.0	0.0	0.0	0.0	25.00	1.0
						NRPP	MON	60.00	0.0	50.00	0.0	50.00	0.0	0.0	0.0	160.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	0.0	0.0	50.00	0.0	50.00	0.0
						Subtotal		85.00	1.0	50.00	0.0	50.00	0.0	50.00	0.0	235.00	1.0
4	004.004	DEVELOP REFUSE DUMP INVENTORY SYS & REMOVAL PROCESS		COMB C26 N16		RG-CR-MTN	RES	5.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0
						PKBASE-CR	RES	0.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.3
						RG-CR-MTN	MIT	0.0	0.0	25.00	0.0	0.0	0.0	0.0	0.0	25.00	0.0
						Subtotal		5.00	0.3	25.00	0.0	0.00	0.0	0.00	0.0	30.00	0.3
5	005.005	INTEGRATED PEST MANAGEMENT PROGRAM		COMB C12 C17		RG-RM-NAT	RES	10.00	0.0	10.00	0.0	0.0	0.0	0.0	0.0	20.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	10.00	0.5	0.0	0.0	10.00	0.5
						Subtotal		10.00	0.0	10.00	0.0	10.00	0.5	0.00	0.0	30.00	0.5
6	006.006	STUDY AND MONITOR RAPPAHANNOCK RIVERBANK		COMB N20 N08		NRPP	RES	50.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.00	0.0
						NRPP	MIT	0.0	0.0	60.00	0.0	0.0	0.0	0.0	0.0	60.00	0.0
						Subtotal		50.00	0.0	60.00	0.0	0.00	0.0	0.00	0.0	110.00	0.0
7	007.007	MANAGE SPECIMEN TREES		CULL N20 C12		PKBASE-OT	MON	5.00	0.2	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.2
						RG-RM-NAT	RES	0.0	0.0	30.00	0.0	0.0	0.0	0.0	0.0	30.00	0.0
						TEMP$-NR	MIT	0.0	0.0	0.0	0.0	10.00	0.3	0.0	0.0	10.00	0.3
						Subtotal		5.00	0.2	30.00	0.0	10.00	0.3	0.00	0.0	45.00	0.5
	8.008	DEVELOP OPEN FIELDS MANAGEMENT	156	CULL C11 C17		NRPP	RES	40.00	0.0	40.00	0.0	0.0	0.0	0.0	0.0	80.00	0.0

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PROGRAMMING SHEET 2
NATURAL and CULTURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
		PLAN															
9	009.009	PREPARE AN APPROVED LANDSCAPE PLANTING & MAINT PLAN	156	CULL	N16 C11	RG-CR-MTN	RES	15.00	0.0	10.00	0.0	0.0	0.0	0.0	0.0	25.00	0.0
10	010.010	MANAGE AGRICULTURAL SPECIAL USE PERMITS		CULL	C11 N19	TEMP$-NR	RES	15.00	0.0	15.00	0.0	0.0	0.0	0.0	0.0	30.00	0.0
	10 projects printed																
						Grand Total		229.00	1.6	372.00	2.4	207.00	3.3	200.00	2.6	1008.00	9.9

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PROGRAMMING SHEET 2
CULTURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	001.011	REHABILITATI ON OF ELLWOOD	228	STRC	C05 C13	PKBASE-CR	MIT	9.00	0.2	0.0	0.0	0.0	0.0	0.0	0.0	9.00	0.2
						RG-CR-MTN	RES	20.00	0.4	0.0	0.0	0.0	0.0	0.0	0.0	20.00	0.4
						RG-CR-MTN	MIT	0.0	0.0	150.00	0.5	100.00	0.5	50.00	0.5	300.00	1.5
						CONSTRUCT	MIT	0.0	0.0	0.0	0.0	200.00	0.0	300.00	0.0	500.00	0.0
						PKBASE-CR	INT	0.0	0.0	0.0	0.0	0.0	0.0	35.00	1.5	35.00	1.5
						Subtotal		29.00	0.6	150.00	0.5	300.00	0.5	385.00	2.0	864.00	3.6
2	002.012	MONITORING AND STABILIZATIO N OF HISTORIC STRUCTURES		STRC	C12 C18	PKBASE-CR	MIT	0.0	0.0	60.00	0.9	62.00	0.9	66.00	1.0	188.00	2.8
						RG-CR-MTN	RES	0.0	0.0	5.00	0.1	5.00	0.1	5.00	0.1	15.00	0.3
						RG-CR-MTN	MIT	0.0	0.0	30.00	0.1	30.00	0.1	30.00	0.1	90.00	0.3
						NON-NPS-O	MIT	0.0	0.0	10.00	0.1	10.00	0.1	10.00	0.1	30.00	0.3
						Subtotal		0.00	0.0	105.00	1.2	107.00	1.2	111.00	1.3	323.00	3.7
3	003.013	CONSERVATION AND PROTECTION OF MUSEUM COLLECTION		OBJC	C16 C20	PKBASE-CR	MIT	0.0	0.0	12.00	0.3	14.00	0.3	19.00	0.4	45.00	1.0
						RG-CR-MTN	PRO	0.0	0.0	15.00	0.1	0.0	0.0	0.0	0.0	15.00	0.1
						RG-CR-MTN	MIT	0.0	0.0	15.00	0.4	25.00	0.6	15.00	0.4	55.00	1.4
						Subtotal		0.00	0.0	42.00	0.8	39.00	0.9	34.00	0.8	115.00	2.5
4	004.014	PLACEMENT OF MUSEUM RECORDS ON ANCS		OBJC	C03	RG-CR-MTN	RES	0.0	0.0	8.00	0.4	8.00	0.4	8.00	0.4	24.00	1.2
						NON-NPS-O	RES	0.0	0.0	5.00	0.0	0.0	0.0	0.0	0.0	5.00	0.0
						Subtotal		0.00	0.0	13.00	0.4	8.00	0.4	8.00	0.4	29.00	1.2
5	005.015	INVESTIGATE, STABILIZATIO N, & PROTEC. OF ARCH. RES.		SITE	C02 C07	PKBASE-CR	MON	4.00	0.1	4.00	0.1	4.00	0.1	5.00	0.1	17.00	0.4
						NON-NPS-O	MIT	5.00	0.0	5.00	0.0	0.0	0.0	0.0	0.0	10.00	0.0
						RG-CR-MTN	MIT	0.0	0.0	25.00	0.3	25.00	0.3	0.0	0.0	50.00	0.6
						CONSTRUCT	MIT	0.0	0.0	0.0	0.0	0.0	0.0	400.00	0.5	400.00	0.5
						CONSTRUCT	INT	0.0	0.0	0.0	0.0	0.0	0.0	70.00	0.3	70.00	0.3
						Subtotal		9.00	0.1	34.00	0.4	29.00	0.4	475.00	0.9	547.00	1.8
6	006.016	EXPANSION OF AREA COVERED BY HIST. OVERLAY MAPS		COMB	C08 C22	PKBASE-CR	RES	4.00	0.1	4.00	0.1	5.00	0.1	5.00	0.1	18.00	0.4
						CRPP	RES	0.0	0.0	0.0	0.0	20.00	0.2	20.00	0.2	40.00	0.4
						Subtotal		4.00	0.1	4.00	0.1	25.00	0.3	25.00	0.3	58.00	0.8
7	007.017	ESTABLISHMEN T OF A CULTURAL RESOURCES ARCHIVES		OBJC	C26	PKBASE-CR	MIT	0.0	0.0	5.00	0.2	7.00	0.2	5.00	0.2	17.00	0.6
						NON-NPS-O	MIT	0.0	0.0	2.00	0.0	0.0	0.0	3.00	0.0	5.00	0.0
						CRPP	MIT	0.0	0.0	0.0	0.0	12.00	0.2	0.0	0.0	12.00	0.2
						Subtotal		0.00	0.0	7.00	0.2	19.00	0.4	8.00	0.2	34.00	0.8

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PROGRAMMING SHEET 2
CULTURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
8	008.018	INVESTIGATIO N & MARKING OF CIVIL WAR-ERA RD TRACES		STRC	C07 C08	PKBASE-CR	RES	3.00	0.1	3.00	0.1	4.00	0.1	4.00	0.1	14.00	0.4
						RG-CR-MTN	MIT	0.0	0.0	15.00	0.3	15.00	0.3	15.00	0.3	45.00	0.9
						CONSTRUCT	MIT	0.0	0.0	0.0	0.0	0.0	0.0	220.00	1.0	220.00	1.0
						Subtotal		3.00	0.1	18.00	0.4	19.00	0.4	239.00	1.4	279.00	2.3
9	009.019	ESTABLISHMEN T OF AN ORAL HISTORY PROGRAM			C04	PKBASE-CR	RES	0.0	0.0	3.00	0.2	3.00	0.2	4.00	0.2	10.00	0.6
						NON-NPS-O	RES	0.0	0.0	2.00	0.0	2.00	0.0	5.00	0.0	9.00	0.0
						Subtotal		0.00	0.0	5.00	0.2	5.00	0.2	9.00	0.2	19.00	0.6
10	010.020	INVESTIGATIO N OF POTENTIALLY NONHIST. SITES & STRUC		COMB	C02 C07	PKBASE-CR	RES	0.0	0.0	8.00	0.2	0.0	0.0	0.0	0.0	8.00	0.2
11	011.021	PREVENTION OF RELIC HUNTING		COMB	C20	PKBASE-OT	PRO	0.0	0.0	25.00	0.7	0.0	0.0	0.0	0.0	25.00	0.7
	11 projects printed																
						Grand Total		45.00	0.9	411.00	5.1	551.00	4.7	1294.00	7.5	2301.00	18.2

End of data

PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
1	003.024	MANAGE/PROTECT WETLANDS		CULL	N06 N20	WATER-RES	RES	30.00	0.0	30.00	0.0	0.0	0.0	0.0	0.0	60.00	0.0
						PKBASE-NR	RES	0.0	0.0	5.00	0.3	0.0	0.0	0.0	0.0	5.00	0.3
						Subtotal		30.00	0.0	35.00	0.3	0.00	0.0	0.00	0.0	65.00	0.3
2	001.022	DEVELOP NATURAL RES. BASE INVENTORY OF FLORA COMMUN			N20 N03	NRPP	RES	30.00	0.0	50.00	0.0	50.00	0.0	0.0	0.0	130.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	0.0	0.0	25.00	1.0	25.00	1.0
						Subtotal		30.00	0.0	50.00	0.0	50.00	0.0	25.00	1.0	155.00	1.0
3	002.023	MANAGE/PROTECT WATER RESOURCES		COMB	N11 N20	PKBASE-NR	MON	15.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	15.00	0.3
4	004.025	ABATEMENT OF TREE HAZARDS		COMB	N22	RG-REG-MT	MIT	25.00	0.0	25.00	0.0	25.00	0.0	25.00	0.0	100.00	0.0
						PKBASE-OT	MIT	0.0	0.0	0.0	0.0	25.00	1.0	0.0	0.0	25.00	1.0
						Subtotal		25.00	0.0	25.00	0.0	50.00	1.0	25.00	0.0	125.00	1.0
5	005.026	DEVELOP FIRE MGMT PROGRAM TO INCL. RX FIRE COMP		COMB	N20 N08	FIRE-$	MIT	10.00	0.0	10.00	0.0	10.00	0.0	10.00	0.0	40.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	5.00	0.2	0.0	0.0	5.00	0.2
						Subtotal		10.00	0.0	10.00	0.0	15.00	0.2	10.00	0.0	45.00	0.2
6	008.029	MANAGE GYPSY MOTH INTEGRATED PEST MGMT PROGRAM		CULL	N04 N08	FED-OTHER	MON	0.0	0.0	11.00	0.0	15.00	0.0	15.00	0.0	41.00	0.0
						FED-OTHER	MIT	0.0	0.0	30.00	0.0	35.00	0.0	50.00	0.0	115.00	0.0
						Subtotal		0.00	0.0	41.00	0.0	50.00	0.0	65.00	0.0	156.00	0.0
7	006.027	INVENTORY AND MONITOR WILDLIFE PROGRAM		COMB	N20 N02	NR-I&M	RES	50.00	0.0	50.00	0.0	0.0	0.0	0.0	0.0	100.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	15.00	0.2	0.0	0.0	15.00	0.2
						Subtotal		50.00	0.0	50.00	0.0	15.00	0.2	0.00	0.0	115.00	0.2
8	010.031	DEVELOP TRAIL MANAGEMENT PROGRAM	225	COMB	N22 C18	PKBASE-OT	MIT	30.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	30.00	0.3
						RG-REG-MT	MIT	10.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.0
						Subtotal		40.00	0.3	0.00	0.0	0.00	0.0	0.00	0.0	40.00	0.3
9	011.032	DEVELOP EXOTIC PLANT MANAGEMENT PROGRAM		COMB	N05 N08	NRPP	RES	30.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.00	0.0
						NRPP	MIT	0.0	0.0	30.00	0.0	0.0	0.0	0.0	0.0	30.00	0.0
						NRPP	MON	0.0	0.0	0.0	0.0	30.00	0.0	0.0	0.0	30.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	0.0	0.0	10.00	0.6	10.00	0.6
						Subtotal		30.00	0.0	30.00	0.0	30.00	0.0	10.00	0.6	100.00	0.6

continued...

PROGRAMMING SHEET 2
NATURAL
UNFUNDED ACTIVITIES
($ in thousands)

PK PRI	PROJECT NUMBER	PROJECT TITL	PKG NUM	CULT RES TYPE	SYSTEM-WIDE ISSUE	FUNDING SOURCE	ACT TYP	STARTING YEAR $$	STARTING YEAR FTE	OUTYEAR 1 $$	OUTYEAR 1 FTE	OUTYEAR 2 $$	OUTYEAR 2 FTE	OUTYEAR 3 $$	OUTYEAR 3 FTE	TOTAL $$	TOTAL FTE
10	009.030	EVAL. VALIDITY OF MINERAL RIGHTS & DEVEL. POTENTIAL	OBJC N10 N20			ENER-MIN	RES	10.00	0.0	10.00	0.0	0.0	0.0	0.0	0.0	20.00	0.0
						ENER-MIN	MIT	0.0	0.0	0.0	0.0	10.00	0.0	0.0	0.0	10.00	0.0
						Subtotal		10.00	0.0	10.00	0.0	10.00	0.0	0.00	0.0	30.00	0.0
11	007.028	PROTECT AIR QUALITY RELATED VALUES	COMB N14 N20			RG-NS-RES	RES	15.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.00	0.0
						RG-RM-NAT	MON	0.0	0.0	15.00	0.0	0.0	0.0	0.0	0.0	15.00	0.0
						PKBASE-NR	MON	0.0	0.0	0.0	0.0	10.00	0.2	0.0	0.0	10.00	0.2
						AIR-QUAL	MON	0.0	0.0	0.0	0.0	0.0	0.0	5.00	0.0	5.00	0.0
						Subtotal		15.00	0.0	15.00	0.0	10.00	0.2	5.00	0.0	45.00	0.2
	11 projects printed																
						Grand Total		255.00	0.6	266.00	0.3	230.00	1.6	140.00	1.6	891.00	4.1

End of data

FRSP-C-011.021	Prevention of Relic Hunting
FRSP-N-001.022	Develop Natural Resource Basic Inventory of Floral Communities
FRSP-N-002.023	Manage/Protect Water Resources
FRSP-N-003.024	Manage/Protect Wetlands
FRSP-N-004.025	Abatement of Tree Hazards
FRSP-N-005.026	Develop Fire Management Program to Include Prescribe Fire Component
FRSP-N-006.027	Initiate an Inventory and Monitor Program for Wildlife
FRSP-N-007.028	Protect Air Quality Values
FRSP-N-008.029	Gypsy Moth Integrated Pest Management Program
FRSP-N-009.030	Evaluate Validity of Mineral Rights and Development Potential
FRSP-N-010.031	Develop Trail Management Program
FRSP-N-011.032	Develop Exotic Plant Management Program

FRSP-I-001.001

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-001.001

TITLE: INVESTIGATION AND STABILIZATION OF EARTHWORKS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 39.0 UNFUNDED: 248.0

SERVICEWIDE ISSUES: C17 CTRL ENV IMPAC C18 CTRL VIS IMPAC

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER: 227

PROBLEM STATEMENT:

The park's unsurpassed collection of earthworks desperately needs stabilization and protection against a variety of natural and human threats. This situation exists despite the fact that the General Management Plan directed that specific earthwork segments "with a high level of visibility and interpretative value (approximately 22 miles)" be targeted by a corrdinated "program of selective clearing and stabilization." No such program, modified to incorporate the recommendations of the Earthworks Landscape Management Manual (1987), now exists. Moreover, the earthwork's section of Fredericksburg and Spotsylvania's Historic Resource Study, has never been formally updated to incorporate an enormous amount of new historical data.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Establish a Resources Management committee or steering group, meeting on a regular basis, to prioritize and direct all efforts to clear, stabilize, and protect the park's earthworks (in addition to prioritizing and directing restoration of historic ground-cover). Initiate testing of liming and prescribed burning for effectiveness in controlling vegetation. Remove dead, diseased, or infested trees posing a threat to the stability of the priority earthworks.

Remove or mitigate the following additional threats to the priority earthworks:

A. Authorized Trails - Install bridges at all earthwork crossing-points. Reroute parallel trails which channel natural erosion or pedestrian traffic onto earthworks. Repair or replace existing unsound bridges.

B. Unauthorized Trails - Install barriers or fences, out of sight from authorized trails or viewing points wherever possible. Begin with the least permanent and least obtrusive type.

C. Climbing by Visitors - Install or expand

PROJECT STATEMENT SHEET

barrier/bridge/cautionary sign systems to protect earthworks at tour stops and other areas of heavy use. Remove unnecessary "lures" such as signs placed in the earthworks themselves. Consider installing new interpretive signs partly to serve as "polite" barriers.

D. Bushhogging/Mowing - Establish selected, pre-existing gaps as designated "gates" for mowing equipment to pass through earthwork lines. Install "Encramat" or other unobtrusive, protective treatments to the vulnerable earthwork-ends at each "gate." Establish exclusion zones to be observed while bushhogging earthworks. Conduct intradivisional presentations on earthwork construction, use, and preservation.

E. Erosion from Watercourses - Install rip-rap and/or vegetation along watercourses which facilitate the erosion of earthworks.

Implement the above measures, including tree-removal, for non-priority earthworks threatened with major damage.

Initiate a major effort to update the section of the park's Historic Resource Study which pertains to earthworks. This would greatly facilitate: the designation of additional segments as "priority" earthworks, the general interpretation of earthworks, the identification of past alterations or destructions, and the consideration of restoring selected segments.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	RES	4.0	0.1
	PARK-CR	MIT	35.0	1.2
		Subtotal:	39.0	1.3
Year 2:				
Year 3:				
Year 4:				
		Total:	39.0	1.3

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				

FRSP-I-001.001

PROJECT STATEMENT SHEET

Year 2:	PARK-CR	RES	4.0	0.1
	PARK-CR	MIT	45.0	1.5
	REGN-CR	MIT	20.0	0.2
	FIRE	MIT	10.0	0.0
		Subtotal:	79.0	1.8
Year 3:	PARK-CR	RES	5.0	0.1
	PARK-CR	MIT	48.0	1.5
	REGN-CR	MIT	20.0	0.2
	PARK-NR	MIT	10.0	0.1
		Subtotal:	83.0	1.9
Year 4:	PARK-CR	RES	5.0	0.1
	PARK-CR	MIT	51.0	1.5
	REGN-CR	MIT	20.0	0.2
	PARK-NR	MIT	10.0	0.1
		Subtotal:	86.0	1.9
		Total:	248.0	5.6

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

A "no action" policy would produce increased erosion of the earthworks by human and natural forces.

A "continue present action" policy would produce uncoordinated, uneven protection/stabilization of the earthworks and impair the park's ability to both update evaluation data and provide adequate protection/stabilization in the future.

COMPLIANCE CODE(s): NHPA NEPA

EXPLANATION:

Proposal Date: 92

FRSP-I-002.002

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-002.002

TITLE: RESTORATION OF HISTORIC GROUND COVER
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 175.0

SERVICEWIDE ISSUES: C13 REHAB/RESTORAT C17 CTRL ENV IMPAC

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER: 229

PROBLEM STATEMENT:

Large portions of the park's battlefields support non-historic ground cover, and some of the open fields of the Civil War period are now in second-growth forest. Because the most severe fighting took place in the open areas, battle events are difficult or impossible to interpret where forests have grown up. Many modern openings where dense thicket or forest prevailed historically also confuse interpretation. The General Management Plan directed that about 357 acres be cleared and that about 123 acres be reforested. Almost none of this vital scene restoration work has been accomplished to date.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Establish a Resources Management committee or steering group, meeting on a regular basis, to prioritize and direct all efforts to implement historic ground-cover restoration (in addition to prioritizing and directing investigation and stabilization of earthworks). Among other things, this group will:

A. Review all extant and proposed agricultural use permits for compatibility with 1860 agricultural census data and other Civil War era landscape documentation.

B. Review all planned restoration work for compatibility with the 1981 American University study maps, as stipulated in the General Management Plan. Conduct an archaeological survey of each targeted tract before restoration is implemented there. Modify work plan to protect any significant cultural resources which are already identified or discovered through such a survey. Complete restoration of historic ground-cover on those tracts specified in the General Management Plan but not yet restored.

Proposal Date: 92

FRSP-I-002.002

PROJECT STATEMENT SHEET

BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0
UNFUNDED				
Year 1:	PARK-CR	MON	4.0	0.1
Year 2:	PARK-CR	MON	4.0	0.1
	PARK-CR	MIT	15.0	0.3
	REGN-CR	MIT	30.0	0.2
	FIRE	MIT	4.0	0.0
		Subtotal:	53.0	0.6
Year 3:	PARK-CR	MON	5.0	0.1
	PARK-CR	MIT	15.0	0.3
	REGN-CR	MIT	30.0	0.2
	FIRE	MIT	4.0	0.0
		Subtotal:	54.0	0.6
Year 4:	PARK-CR	MON	5.0	0.1
	PARK-CR	MIT	25.0	0.4
	REGN-CR	MIT	30.0	0.2
	FIRE	MIT	4.0	0.0
		Subtotal:	64.0	0.7
		Total:	175.0	2.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

A "no action" policy would severely impair the ability of visitors to visualize historic landscapes and events at many key sites throughout the park.

A "continue present action" policy would encourage an uncoordinated approach to scene restoration which tends to

FRSP-I-002.002

PROJECT STATEMENT SHEET

neglect consideration of archaeological and natural resources and the use of historical (especially agricultural census) data as a guide for drafting agricultural use permits.

COMPLIANCE CODE(s): NHPA NEPA

EXPLANATION:

Proposal Date: 92

FRSP-I-003.003

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-003.003

TITLE: ESTABISH GIS FOR MONITORING RESOURCES AND LAND USE
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 235.0

SERVICEWIDE ISSUES: N20 BASELINE DATA C22 OUT THREATS CR

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Over the past 60 years the park has collected reams of data and maps of park buildings, earthworks, trails, utility lines, troop movements and positions, boundary surveys, topography, and forestry inventories among others. Managers must evaluate the information when making a broad variety of decisions regarding park resources. The intensity of this evaluation process has become increasingly complex with the addition of impacts and influence from adjacent lands. To conduct this examination, one needs data about the resources and a system for storing, retrieving, and analyzing the data.

Currently the park must rely upon various map resources, handmade schematics, and data that are located in many different files, formats, and locations. The end result is repetitive, time-consuming searches that are of limited value for management. The ability to analyze data accurately under current conditions is severely limited.

The components of a computerized land information system include the data to be analyzed, devices to enter data, means of storing the data, the computer hardware and software that perform the analytical functions, and a means of information output. The application of a Geographic Information System to manage problems stem from the ability of the system to store, sort, merge, edit, update, and analyze resource data according to the instructions of the system's operator. The implementation of a GIS can create, analyze, and display mapped information in a scale or detail needed from a different vantage point (e.g. zooming in). It can connect mapped information to attribute data. An example would be retrieving a map of park boundaries and being able to relate this to tract name, ROW's, land ownership, zoning, cultural & natural resources, etc.

A GIS would be used to create new types of mapped information and analysis from updated themes and data, and could be used to predict trends and detect changes, e.g. changes in surrounding development of private lands, vegetation management, cultural

FRSP-I-003.003

PROJECT STATEMENT SHEET

resources management, etc.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Present Action) are rejected for the reasons stated below. Alternative number three (Develop a Resource Based GIS) is recommended.

A Comprehensive GIS Plan would be prepared. The plan would identify inventory requirements as stated above and establish priorities. Consultation with the WASO GIS Division and other agencies who can provide technical assistance would be necessary. Funding would be needed for a three year project. Base maps on earthworks, troop movements, historic structures, wildlife and plant distribution, geology, soils, land use, scenic easements, trails, fire history, gypsy moth defoliation, and others would be prepared as themes within the GIS.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	GIS	RES	25.0	0.0
	NRPP	MON	60.0	1.0
		Subtotal:	85.0	1.0
Year 2:	NRPP	MON	50.0	0.0
Year 3:	NRPP	MON	50.0	0.0
Year 4:	PKBASE-OT	MON	50.0	0.0
		Total:	235.0	1.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

FRSP-I-004.004

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-004.004

TITLE: DEVELOP REFUSE DUMP INVENTORY SYS & REMOVAL PROCESS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 30.0

SERVICEWIDE ISSUES: C26 OTHER N16 NEAR-PARK DEV

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The true extent of refuse dumps throughout the park is unknown. Identification of some of the more obvious dumps has been documented, but recordings continue to be done on a random basis. Some dumps have been found to obscure or cover civil war campsites, road traces, and earthworks. Other dumps scattered throughout the park are intrusions upon the historic landscape.

Areas of special concern include the wartime road traces and confederate campsite locatiohs west of Lee Drive on the Fredericksburg Battlefield. Many of these features are obscured by refuse dumps left by previous tenants prior to NPS ownership. In abandoned agricultural fields the occurrence of disposed hazardous pesticide containers has been documented.

With the increase urbanization of adjacent lands, dumping refuse onto park property has become more common.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (continue Present Action) are rejected for the reasons stated below. Alternative number three (Develop A Refuse Dump Inventory & Removal System) is recommended.

A comprehensive inventory and removal system would be developed by the park. This program would allow us to develop a good refuse dump removal practice.

Park staff will continue to perform routine, scheduled inspections of all new land acquisitions for the presence of refuse or hazardous waste dumps. All park areas, especially boundaries, will be inspected once per year to prevent the accumulation of trash and alleviate the potential damage to cultural resources.

Proposal Date: 92

FRSP-I-004.004

PROJECT STATEMENT SHEET

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

	UNFUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	REGN-CR	RES	5.0	0.3
Year 2:	REGN-CR	MIT	25.0	0.0
Year 3:				
Year 4:				
		Total:	30.0	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: This alternative is unacceptable due to the increased damage to cultural and natural resources from refuse dumps.

Continue Present Management: Under this alternative, the current status would remain the same. Visual observation and work would be conducted on a random basis. Damage to resources and the potential for undetected hazardous wastes would be greater than alternative number three.

Develop A Refuse Dump Inventory & Removal System: It is proposed that a comprehensive, detailed dump inventory & removal system be developed. The objective of a Dump Removal Plan would be the evaluation of each dump and the establishment of priorities for removal at minimum cost and with the least damage to the environment and cultural resources.

A rating system procedure would be used to provide a consistent realistic estimate of cultural impacts, aesthetic values, and environmental damage. Removal would be scheduled through the Maintenance Management System.

FRSP-I-004.004

PROJECT STATEMENT SHEET

COMPLIANCE CODE(s): NHPA OTHER

EXPLANATION: NEPA

Proposal Date: 92

FRSP-I-005.005

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-005.005

TITLE: INTEGRATED PEST MANAGEMENT PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 16.0 UNFUNDED: 30.0

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C17 CTRL ENV IMPAC

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park manages approximately 700 acres of agricultural land and a large assemblage of cultural resources requiring close monitoring and control of pests. The integrated pest management approach to detect, monitor, and maintain pest infestation at undamaging levels by promoting natural controls is gradually being implemented at FRSP.

Agricultural permits are not adequately monitored for pest populations. We must have substantially better documentation of pest populations to evaluate or warrant the use of pesticides. Efforts to monitor pest populations has been unsuccessful due to shortages of resources management personnel.

Along with the extensive forest and agricultural lands, a variety of historic and/or culturally significant structures are threatened by pests. Included in these are Ellwood, Jackson Shrine, Chatham Manor, Salem Church, the Innis House, et al. All of these are exposed to the ravages and efects of exposure to the elements and to the public. All, as a result, require increased monitoring and control of pests to prevent deterioration of historic fabric. Ellwood in particular lacks even minimum protection. Temperature for proper environmental parameters for maintenance of historic objects is 65 degrees (plus or minus 5 degrees) and 50 percent humidity (plus or minus 5 percent). It is impossible to even come close to these optimums with the current lack of control. This damp environment provides excellent habitat for a host of wood-boring and wood-eating pests.

FRSP contains the most extensive examples of Civil War earthworks in the National Park Service. In some areas along the 36 miles of these earthen structures, native groundhogs have disturbed earthwork integrity through their home building activities. Particularly at Prospect Hill on the Fredericksburg Battlefield and Heth's Salient in Spotsylvania Battlefield 100 feet of earthworks have received irreparable damage from this activity. At the present time the groundhog population continues to expand.

FRSP-I-005.005

PROJECT STATEMENT SHEET

Service policy and the objective of park managers is to avoid damage to park resources from pests. Cultural and Natural Resources personnel have attempted to monitor and control pest populations within historic structures and to reduce agriculture's dependency on the use of chemicals. However, the efforts to implement the IPM program have been only partially successful due to shortages in manpower.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternatives number one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative number three (Develop IPM Action Plans) is recommended.

Development of IMP Action Plans for individual pest species will be completed when monitoring suggests intervention is necessary to reduce resource damage.

The park will continue to monitor the structural integrity of Ellwood with the Regional Cultural Resources Division. Until cyclic money is obtained, the park preservation staff will continue efforts to protect the structure from environmental damage.

A comprehensive, systematic inventory & monitoring system would be developed for all agricultural operations. Valuable baseline data acquired from close monitoring will give management a sound basis upon which to formulate pest control measures. Such a system, once established, would allow the park to stay on top of all NPS guidelines, standards, and regulations. Resources management would submit documentation to increase base operating funds to accomplish this effort.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-NR	MON	4.0	0.1
Year 2:	PARK-NR	MON	4.0	0.1
Year 3:	PARK-NR	MON	4.0	0.1
Year 4:	PARK-NR	MON	4.0	0.1
		Total:	16.0	0.4

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	10.0	0.0

FRSP-I-005.005

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Year 2:	NRPP	RES	10.0	0.0
Year 3:	PARK-NR	MON	10.0	0.5
Year 4:				
		Total:	30.0	0.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: If no effort is made to monitor & control pests, the damage to the structures mentioned above and the chemical dependency of farmers will only continue to increase. Historic fabric would be altered, and the toxicity to animals and water resources from large dosages of chemicals could reach critical levels.

Continue Present Management: Under present actions, the structures are subjected to increased risk from damage by wide variations in temperature and humidity, powderpost beetles, carpenter ants, termites, small mammals, etc. Pest control would continue to be performed on an "as needed" or "emergency basis."

The use of NPS approved chemicals would continue to be used in control of agricultural pests. Due to minimal funding and staffing, monitoring of crop pests and research into biological controls would be dependent upon availability of seasonal personnel. Under this alternative, pest populations could continue to spread throughout structures and agricultural fields.

Develop IPM Action Plans: It is proposed that a parkwide survey determine and identify the pest problem areas. As a result of these surveys, comprehensive and detailed IPM Action Plans would be prepared as soon as possible. Priority would be given to those species threatening historic structures.

An Inventory and Monitoring Program would be designed and instituted for all agricultural pests. Data collected would be part of a parkwide program to establish baseline data and acceptable limits of pest populations and chemical control. Funding and staffing would be necessary to accomplish this effort.

COMPLIANCE CODE(s): EXCL EA

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

FRSP-I-006.006

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-006.006

TITLE: STUDY AND MONITOR RAPPAHANNOCK RIVERBANK
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 12.0 UNFUNDED: 110.0

SERVICEWIDE ISSUES: N20 BASELINE DATA N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park has approximately one mile of tidal riverfront along the Rappahannock River, the site of Civil War pontoon crossings during the Battle of Fredericksburg. This section of river is located on the "fall line," where by definition, the tidal influence of the Chesapeake Bay on the river meets the rocky substrate and rapids of the Piedmont Region. The resulting release of energy associated with these river dynamics create problems with erosion, soil washes, siltation, and river channel changes. The steep unprotected riverbank below Chatham is on an outside bend in the river where velocity and turbulence are greatest. Erosion is taking place at an unknown rate.

Current maintenance of the floodplain includes cutting trees and mowing vegetation to recreate the open appearance of the 1860's. To date no action has been taken to monitor or stabilize the riverbank. Continued lack of corrective measures and maintenance will result in deterioration of this riverbank and floodplain.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative number three (Research and Develop Riverbank Stabilization and Maintenance Plan) is recommended.

It is recommended that a complete engineering study of the riverbank and river dynamics be performed and a plan for stabilization and monitoring be developed and implemented, after appropriate environmental and cultural clearances are obtained. This plan for action will provide the park with a guide and plan for correcting the existing problem and make recommendations on long-range maintenance plans for the floodplains.

Repairs and mitigation efforts would be identified and prioritize through the survey. Resources can be programmed in terms of labor, supplies, and materials for riverbank stabilization.

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BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:	PKNR-OTH	MON	3.0	0.1
Year 2:	PKNR-OTH	MON	3.0	0.1
Year 3:	PKNR-OTH	MON	3.0	0.1
Year 4:	PKNR-OTH	MON	3.0	0.1
		Total:	12.0	0.4
UNFUNDED				
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	50.0	0.0
Year 2:	NRPP	MIT	60.0	0.0
Year 3:				
Year 4:				
		Total:	110.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Continue Present Management: Continue to mow herbaceous material and remove selected trees to maintain a semi-open appearance. Maintenance to the riverbank will be provided on an emergency basis when catastrophic flood or hurricane events create extensive damage or safety hazards. Continued lack of knowledge on riverbank condition and those corrective measures needed to protect the floodplain will result in further deterioration of this historic launching platform of the Battle of Fredericksburg.

Research and Develop Riverbank Stabilization and Maintenance Plan: Complete a geomorphologic study of river dynamics and riverbank characteristics and propose mitigating actions to protect the Chatham Vista Pontoon Crossing from further deterioration. A survey would identify the problem areas and prepare a stabilization and maintenance control plan to alleviate stresses on park resources.

COMPLIANCE CODE(s): NHPA OTHER

EXPLANATION: EA AND NEPA

FRSP-I-007.007

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-007.007

TITLE: MANAGE SPECIMEN TREES
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 45.0

SERVICEWIDE ISSUES: N20 BASELINE DATA C12 PRESERVE MGMT

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Derived from its founding legislation, the National Park Service manages FRSP lands and resources to preserve the health and vigor of its forests and specimen plants and to maintain their scenic and historic qualities. Many trees on the grounds of Ellwood, Chatham, and the National Cemetery date from the historic period, or in the case of the latter, are part of an original landscape plan. Dozens of other trees scattered throughout the battlefields have been identified to be over 150 years old. While the park has documented the importance of the trees at Chatham, Ellwood, and the cemetery, information concerning the significance of those historic period trees found in the forest is nonexistent.

Efforts have been made in the past to preserve and protect some of specimens from insect, disease, and storm damage. The cables and lightning rods installed on many of these trees are ineffective or in need of repair. The park lacks the ability to limb large trees to remove dead branches or reduce the tree's wind resistance during storms.

With the exception of the Chatham Catalpa trees, no provision has been made to replace unique trees with their own progeny grown from seeds or propagated through some form of vegetative reproduction, such as cuttings.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternatives one (No Action) and two (Continue Present Management) are rejected for the reasons stated below. Alternative three (Inventory and Maintain Specimen Trees) is recommended and would enable management to better manage these unique resources.

Develop a comprehensive inventory and information system for historically and naturally significant tree specimens. This could be performed by park staff and researchers conducting the Forest Management Study. The inventory would focus on the

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condition of the individual trees over time and on the detection of natural and human induced changes. When it is determined that management actions were necessary, the "Best Arborcultural Practices" would be implemented to protect, stabilize, preserve, or propagate specimen trees.

The park would establish a cooperative agreement with a state or federal nursery to propagate selected specimen trees.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-NR	RES	5.0	0.2
Year 2:	RG-NR-RM	MIT	30.0	0.0
Year 3:	PKNR-OTH	MIT	10.0	0.3
Year 4:				
		Total:	45.0	0.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: Under this alternative, individual trees of historic value would continue to pose a safety hazard to the public and nearby historic structures. No effort would be made to replace speciment trees with their own progeny. This would be in direct conflict of the FRSP General Management Plan and the Tree Management Plan for the National Cemetery.

Continue Present Management: Without a thorough inventory the park is unable to determine accurately the number of historic and significance of trees to protect, or those which need to be propagated before removal. Of prime concern is the condition of many of the large trees in heavy use areas that poses safety

PROJECT STATEMENT SHEET

hazards. Maintenance is performed on a contractual basis when cyclic or storm damage funds become available.

Inventory and Maintain Specimen Trees: A thorough inventory of all specimen trees is necessary in order to make accurate decisions for future care and plantings. Management would develop organized work schedules and/or establish realistic goals, concentrating resoruces on the projects determined to have the highest priority. Actions would include protection, preservation, and establishment of a seed bank and methods of propagation to produce progeny. The results of this alternative would not only comply with the FRSP General Management Plan and the Tree Management Plan for the National Cemetery, but also give an accurate representation of historic vegetation and approved planting plans. Funding would be necessary to properly equip and train maintenance personnel for working in large trees, many of them over 90-feet tall.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

FRSP-I-008.008

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-008.008

TITLE: DEVELOP OPEN FIELDS MANAGEMENT PLAN
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 145.0 UNFUNDED: 80.0

SERVICEWIDE ISSUES: C11 CULT LAND REPT C17 CTRL ENV IMPAC

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER: 156

PROBLEM STATEMENT:

The park has over 1,100 acres of open fields. This represents approximately half the area of open fields present during the 1860's. The park manages 700 acres under the Agricultural Special Use Program for grazing, haying, and crop production. Another 400 acres is managed by maintenance personnel through mowing. Over $35,000 annually is spent by the maintenance division for mowing and brush removal in Class C areas. As the park continues an active program of land acquisition and scene restoration, there will be a need of a comprehensive approach to the management of future and present open spaces. There is the potential to reduce maintenance cost per acre while preserving the historic scene and environmental components.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Current Action) are rejected for reasons stated below. Alternative three (Develop a Comprehensive Open Field Management Program) is recommended.

A cooperative agreement with the Virginia Tech School of Agriculture would be established to coordinate research and development of a Comprehensive Management Plan for the park's open fields. Several alternatives would be explored that, in the long term, would reduce the labor and cost for maintenance activities, along with protecting of historic features and natural resources. This detailed plan would incorporate best management practices and make recommendations for the maintenance of each field on its individual characteristics. Monitoring would focus on the aesthetic condition, historic accuracy, the condition of natural resources, and on the detection of natural or human induced changes.

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FRSP-I-008.008

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BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:	PKBASE-OT	MIT	35.0	1.0
Year 2:	PKBASE-OT	MIT	35.0	1.0
Year 3:	PKBASE-OT	MIT	35.0	1.0
Year 4:	PKBASE-OT	MIT	40.0	1.0
		Total:	145.0	4.0
UNFUNDED				
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	40.0	0.0
Year 2:	NRPP	RES	40.0	0.0
Year 3:				
Year 4:				
		Total:	80.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: This alternative would violate the mission of the park, to preserve and restore the historic conditions of the battlefields by maintaining open areas of great historical significance and high interpretive value, to the extent possible.

Continue Current Action: Continue current levels of mowing and farming. As areas of forest are restored to their historic open appearance, maintenance would add these fields to their mowing schedule. Such actions would place increased demands on the already reduced maintenance budget. Alternative methods of maintaining open fields would continue to be explored on a case-by-case basis.

Develop a Comprehensive Open Field Management Program: Under this proposal the park would use the team established by FRSP-I-001 and FRSP-I-002 to develop a comprehensive approach to management of these open areas with help as needed from outside experts. This team would provide detailed plans to reach objectives including recommendations for best management practices, cost analysis of alternatives, e.g., prescribed burning, haying, grazing, row-crop farming, etc., integrated pest

FRSP-I-008.008

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management considerations, historical accuracy, recommended field cover, monitoring plan and schedule for implementation.

The park would request the assistance of the Cooperative Park Study Unit at VPI, Blacksburg, VA, to coordinate and develop this plan.

COMPLIANCE CODE(s): ARPA NHPA

EXPLANATION:

Proposal Date: 92

FRSP-I-009.009

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-009.009

TITLE: PREPARE AN APPROVED LANDSCAPE PLANTING & MAINT PLAN
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 25.0

SERVICEWIDE ISSUES: N16 NEAR-PARK DEV C11 CULT LAND REPT

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER: 156

PROBLEM STATEMENT:

The park maintains 57 acres of roadside grounds along 29 miles of park roads and monitors vegetation along 110 miles of boundary. A Comprehensive Landscape Plan for roadways and critical buffers has never been developed. There exists a need for a professional landscape and maintenance design to manage roadways and vegetative buffers that enhance the cultural and natural scenic values.

The present mowing is accomplished to promote turf borders along roadways, retard erosion, and control weeds, brush, and trees. Some woody vegetation is removed from rock walls, monuments, entrances, vistas, and overlooks on a random schedule each year.

Comprehensive plans for vegetative buffers do not exist. An inventory of critical vistas and scenes is needed in order to provide screening of intrusive adjacent land usage. Due to shortages in personnel and funds, coupled with rapid development, many areas of park boundary offer no vegetative screen from modern buildings, auto traffic, and noise pollution.

Without appropriate planting and maintenance plans there will be less opportunity for efficient allocation of scarce resources. Little progress has been made to facilitate the design and develpment of those areas where vegetation could be utilized and maintained for the best advantages of the park roadways and boundaries.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternatives number one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative three (Prepare and Implement Approved Landscape Plans For All Roadways and Boundaries) is recommended and would help to improve overall visual quality of park roads and boundaries, and enable management to better manage these developed areas.

Develop Comprehensive Landscape Plans for internal park roadways

PROJECT STATEMENT SHEET

and vegetative screens along permanent park boundaries. This would be performed by either Design Services, Denver Service Center, or a private landscape firm. Contractors and park interpretive staff would oversee all design work to make sure that present-day aesthetics do not impair the actual 1860's appearance.

A comprehensive monitoring program would focus on the condition of resources and the detection of natural and human influences over time.

Research would analyze the current planting compositon and species associations in relation to the intent of the landscape plan. Areas of special concern include park entrances, visitor centers, roadways, tour stops, vistas, and critical buffers from intrusions of adjacent land usage.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	REGN-CR	RES	15.0	0.0
Year 2:	REGN-CR	RES	10.0	0.0
Year 3:				
Year 4:				
		Total:	25.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: Under this alternative an analysis and proper evauation of the sites would be nonexistent. Problems of traffic control exist where vehicles have caused damage to turf on road shoulders, tour stops, and turn-a-rounds. There has not been a

FRSP-I-010.010

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-I-010.010

TITLE: MANAGE AGRICULTURAL SPECIAL USE PERMITS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 20.0 UNFUNDED: 30.0

SERVICEWIDE ISSUES: C11 CULT LAND REPT N19 CONSUMPT USE

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Of the 900 acres of open fields that are designated to remain open, 700 are presently being leased to local farmers for agricultural purposes. This provides lease income to the park and reduces maintenance costs, as well as preserves the historic scene by keeping the farm fields open and maintained. The farm units range in size from approximately .5 to 20 acres. Historically grown crops such as corn, wheat, oats, and grasses are allowed to be cultivated. Non-historical soybeans, alfalfa, and Holstein dairy cows are allowed to be grown and raised in areas where park staff determine that these agricultural efforts will not conflict with interpretive themes.

At the present time there are 11 Special Use Farming Permits at FRSP. Permittees pay appropriate fees and are required to meet over 30 special conditions necessary to maintain the historic scene. Continued farming can have profound negative effects on soil and water. As a condition of the Special Use Permit, all farmers are required to maintain up-to-date Soil Conservation Plans filed at the park and local SCS Office. The current plans were completed in 1980 and require revision as soon as possible. These Soil Conservation Plans are comprehensive in nature and offer several recommendations, such as the appropriate crop types and rotation schedule based on the unique characteristics associated with each field.

The Agricultural Special Use Permit program was established to achieve two main goals. First, to enlist the assistance of local farmers to maintain a perpetual small-farm agricultural scene, and second, to establish a very cost effective means of maintaining historic openings, while providing some recurring funding for soil conservation and land improvements.

Proposal Date: 92

FRSP-I-010.010

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DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (Stop Current Action) and two (Implement 1860's Farming Method) are rejected for the reasons stated below.

Alternative number three (Continue Current SUP Program) is recommended. The primary objective of the park, as stated in the General Management Plan, is to restore wherever possible the historic scene as it existed during the battles of the 1860's. The SUP program offers a low-cost long-range-technique of maintaining the historic scene in perpetuity. Permits (as proposed in FRSP-I-002) will be monitored for historical appropriateness. Conflicts may arise between modern farming techniques and the 19th-century setting, but an acceptable compromise is absolutely necessary to preserving the historic setting at FRSP.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	SPECIAL-$	MON	5.0	0.1
Year 2:	SPECIAL-$	MON	5.0	0.1
Year 3:	SPECIAL-$	MON	5.0	0.1
Year 4:	SPECIAL-$	MON	5.0	0.1
		Total:	20.0	0.4

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	15.0	0.0
Year 2:	NRPP	RES	15.0	0.0
Year 3:				
Year 4:				
		Total:	30.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

Stop Current Action: If the use of modern farming and conservation methods were stopped, the level of soil erosion and deterioration of water quality would violate NPS standards & guidelines. The park's maintenance crew would be responsible for

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farming historic open areas, or a contract for services to maintain these lands would be issued at great expense to the NPS. If no farming is accomplished, these lands would revert back to second growth forest. This alternative would not meet the mandates of Congress to maintain the cultural scene present during the 1860's battles.

Implement 1860's Farming Method: The use of 19th-century farming equipment and methods is cost prohibitive and destructive to soil and water resources. This alternative would violate the provisions of the Chesapeake Bay Act, "to reduce soil erosion and its impacts on the water quality of Bay tributaries."

Continue Current SUP Program: The present program would continue to issue agricultural Special Use Permits for 700 acres. This program may see a moderate increase as new scene restoration areas are established (se FRSP-I-002). The farmers would continue to pay modest fees, but in return would be required to meet stringent special use requirements necessary to maintain "Low Impact Sustainable Agriculture."

There may be conflicts between the SUP program and the creation of the historic scene of the 1860's. Modern farming methods and soil conservation techniques require practices such as strip cropping, contour plowing, and crop rotation. These farming practices must be employed to assure the maximum soil protection and perpetuation of natural resources. The park's cultural resource staff will review all SUP's and offer recommendations for mitigation of issues effecting the protection and accurate interpretation of cultural resources.

Although historic crops planted in the fields are desirable from the interpretive point of view, soil erosion, and pesticide use have become major concerns. As the present leases expire, new lease agreements will be written requiring the successful implementation of an approved Soil Conservation Service Plan. For the modern farmer to remain profitable, they must use limited amounts of pesticides to control weeds, insects, fungi, and a host of plant species. Good farming practices and the implementation of a Integrated Pest Management program would reduce the dependency on chemical treatment. Monitoring for historical appropriateness and for pests damage and pesticide use is needed.

Prior to issuing any agricultural Special Use Permits the park's Cultural Resource Committee will be consulted as described in project statement FRSP-I-002, element A. Further consultation will be held with the staff historian to determine potential impacts of trails traversing farmed fields.

COMPLIANCE CODE(s): EXCL

FRSP-I-010.010

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EXPLANATION: 516 DM6 App. 7.4 C(4)

Proposal Date: 92

FRSP-C-001.011

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-001.011

TITLE: REHABILITATION OF ELLWOOD
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 887.0

SERVICEWIDE ISSUES: C05 NEED HSRS C13 REHAB/RESTORAT

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER: 228

PROBLEM STATEMENT:

Ellwood is the park's greatest underutilized cultural resource. The General Management Plan directed that the building be rehabilitated to "serve as the Wilderness Battlefield visitor contact facility." However, five years later, only emergency stabilization work has been completed, and Ellwood still needs conventional investigation, stabilization, and rehabilitation. Consequently the building is denied its best chance for lasting preservation (vandals have already started damaging its exterior); poses a hazard to visitors touring its equally historic grounds; and is prevented from functioning as an invaluable tool to reverse the continuing underutilization of the Wilderness Battlefield as an overall resource.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Complete the architectural section of the Historic Structures Report for Ellwood. Using the recommendations of that report, complete or implement all work necessary to rehabilitate the building as the Wilderness Battlefield visitor contact facility. The latter effort will include selective restoration; installation of visitor-use facilities in the building and on the grounds; and installation of climate-control equipment, exhibits and administrative space.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

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		Total:	0.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	MIT	7.0	0.2
	REGN-CR	RES	20.0	0.4
		Subtotal:	27.0	0.6
Year 2:	PARK-CR	MIT	8.0	0.2
	REGN-CR	MIT	150.0	0.5
		Subtotal:	158.0	0.7
Year 3:	PARK-CR	MIT	8.0	0.2
	REGN-CR	MIT	100.0	0.5
	CONSTR	MIT	200.0	0.5
		Subtotal:	308.0	1.2
Year 4:	PARK-CR	MIT	9.0	0.2
	PARK-CR	INT	35.0	1.5
	REGN-CR	MIT	50.0	0.5
	CONSTR	MIT	300.0	0.5
		Subtotal:	394.0	2.7
		Total:	887.0	5.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 92

FRSP-C-002.012

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-002.012

TITLE: MONITORING AND STABILIZATION OF HISTORIC STRUCTURES
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 85.0 UNFUNDED: 323.0

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C18 CTRL VIS IMPAC

CULTURAL RESOURCE TYPE CODE: STRC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A number of the park's historic structures suffer substantial impacts from staff use and increasing visitation. Many of these structures exhibit symptoms which may indicate extensive problems--including, but not limited to, loss of mortar joints; plaster deterioration; and structural cracks--and therefore may require intervention. All of the park's 57 monuments need cyclic cleaning and/or stabilization. Many marble headstones in the Fredericksburg National Cemetery and the Fairview (civilian) Cemetery have been damaged by acid rain; some are already illegible. The original wooden vestibule of the 1880s Alexander Chapel, which will be the subject of increased visitor attention and curiosity once nearby Ellwood is opened as a contact facility, has somehow survived a variety of impacts, but continues to deteriorate in its present unsheltered and unstabilized state.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Establish a prioritized schedule for examining possible "problem symptoms" in historic structures and, where necessary, implementing preservation actions. Establish a schedule of cyclic inspection, cleaning, and stabilization for the park's monuments, perhaps based upon the system used at Gettysburg. Consider constructing shelters or providing granite replacements for damaged marble headstones and implement these or other measures if appropriate.

BUDGET AND FTEs:

	FUNDED			
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	MIT	60.0	0.9
	REGN-CR	RES	5.0	0.1
	REGN-CR	MIT	20.0	0.1
		Subtotal:	85.0	1.1

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Year 2:

Year 3:

Year 4:

	Total:	85.0	1.1

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	PARK-CR	MIT	60.0	0.9
	REGN-CR	RES	5.0	0.1
	REGN-CR	MIT	30.0	0.1
	NRNON NPS	MIT	10.0	0.1
		Subtotal:	105.0	1.2
Year 3:	PARK-CR	MIT	62.0	0.9
	REGN-CR	RES	5.0	0.1
	REGN-CR	MIT	30.0	0.1
	NRNON NPS	MIT	10.0	0.1
		Subtotal:	107.0	1.2
Year 4:	PARK-CR	MIT	66.0	1.0
	REGN-CR	RES	5.0	0.1
	REGN-CR	MIT	30.0	0.1
	NRNON NPS	MIT	10.0	0.1
		Subtotal:	111.0	1.3
		Total:	323.0	3.7

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 92

FRSP-C-003.013

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-003.013

TITLE: CONSERVATION AND PROTECTION OF MUSEUM COLLECTION
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 17.0 UNFUNDED: 115.0

SERVICEWIDE ISSUES: C16 MUS STORAGE C20 INADEQ SECURIT

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park has no major, current curatorial planning documents. The Scope of Collection Statement has not been revised since 1977. The Collection Condition Survey is only preliminary. A number of objects will need conservation work before the staff at Fredericksburg and Spotsylvania can implement the General Management Plan directive to install exhibits at the present Fredericksburg Visitor Center and the planned Wilderness and Spotsylvania visitor contact facilities.

The park's curatorial storage area, located in the basement of the Chancellorsville Visitor Center, is cramped and otherwise inadequate. Objects stored in cases are either tightly packed or crowded out of the cases entirely. A large collection of framed, orginal Civil War related graphic art is, in many instances, merely stacked on shelves due to a lack of wall space. Some objects are stored in the dedicated work space, a violation of NPS museum standards. Moreover, a number of large pipes extend across the ceiling of the storage area. A rupture in just one would have a disastrous impact upon the collection. Finally, fluctuations in humidity levels are a problem in all exhibit spaces.

Many of the park's finest objects are on display in two visitor centers and two historic structures. Thefts of these objects have occurred, most recently at the Fredericksburg Visitor Center in 1990. Exit doors out of sight of park staff are not armed with alarms and many objects are out of sight of park staff and within reach of the public. In the curatorial storage area, a firearms collection is stored on open, non-locking racks.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Install desiccant dehumidifying system at Chancellorsville Visitor Center and upgrade climate control systems in all buildings where objects are displayed. Install pressure-sensitive or electric-eye alarms to monitor original paintings in Chatham and Chancellorsville Visitor Center. Install

FRSP-C-003.013

PROJECT STATEMENT SHEET

pressure-sensitive or electric-eye alarms to monitor objects displayed in the Jackson Shrine. Install alarm on emergency-exit door across from auditorium of Chancellorsville Visitor Center. Prepare a Collection Storage Plan. Expand the curatorial storage area to include the present ENP&MA storeroom. Continue conservation work outlined in and started under the preliminary Collection Condition Survey. Prepare a Collection Management Plan.

Establish a dedicated work space/examination area free of stored objects and large enough to be practical. Acquire furniture for expanded curatorial area to allow for proper storage of objects.

Begin preparations for new exhibits as prescribed by the General Management Plan, conducting conservation work on display objects as necessary. Develop a "flagging" system for exposed objects at the Jackson Shrine. Update the Scope of Collection Statement. Install locks on museum cabinets. Install a gun safe. Dedicate a wall in the curatorial area for the storage of original art and acquire racks for same.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	MIT	12.0	0.3
	REGN-CR	MIT	5.0	0.0
		Subtotal:	17.0	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	17.0	0.3

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	PARK-CR	MIT	12.0	0.3
	REGN-CR	PRO	15.0	0.1
	REGN-CR	MIT	15.0	0.4
		Subtotal:	42.0	0.8
Year 3:	PARK-CR	MIT	14.0	0.3
	REGN-CR	MIT	25.0	0.6

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		Subtotal:	39.0	0.9
Year 4:	PARK-CR	MIT	19.0	0.4
	REGN-CR	MIT	15.0	0.4
		Subtotal:	34.0	0.8
		Total:	115.0	2.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 92

FRSP-C-004.014

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-004.014

TITLE: PLACEMENT OF MUSEUM RECORDS ON ANCS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 5.0 UNFUNDED: 29.0

SERVICEWIDE ISSUES: C03 MUS CATALOGING

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

While a full 100% of the park's accession records are currently on the Automated National Catalog System, seventy percent of the park's catalog records are still not on ANCS. This shortage will be expecially detrimental to the ability of the Fredericksburg and Spotsylvania staff to implement the General Management Plan directive to plan, prepare, and install exhibits at the present Fredericksburg Visitor Center and the planned Wilderness and Spotsylvania visitor contact facilities.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Complete placement of accession and catalog records on ANCS.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRNON NPS	RES	5.0	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	5.0	0.3

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	REGN-CR	RES	8.0	0.4
	NRNON NPS	RES	5.0	0.3
		Subtotal:	13.0	0.7

FRSP-C-005.015

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-005.015

TITLE: INVESTIGATE, STABILIZATION, & PROTEC. OF ARCH. RES.
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 547.0

SERVICEWIDE ISSUES: C02 INADEQUATE INV C07 INADEQUATE LCS

CULTURAL RESOURCE TYPE CODE: SITE

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park's archeological resources desperately need attention. It has no archeological overview and assessment. At least a dozen structural sites or ruins have long been ear-marked for use as key interpretive devices, based upon the findings of the Historic Resources Study, but still cannot function as such because they lack archeological verification, exploration, and stabilization. At least a half-dozen "dug" sites are of equal value, but their excavations were preliminary or otherwise not completed to a degree appropriate to their interpretive potential. Also, little is known about the specific locations of African-American habitation sites at the plantation-homesteads now interpreted by the park. In addition, the LCS-update team currently has only an incomplete inventory of archeological resources (classified as structural "ruins") with which to implement its survey of Fredericksburg and Spotsylvania in 1993. As discussed in FRSP-C-011, metal-disc "seeding" offers a very promising deterrent against the illegal removal of archeological resources, but also carries the potential for causing confusion by introducing non-historic elements into the stratigraphy of unexplored or undocumented sites. Finally, continued horseback-riding on the battlefields will have a lethal impact upon the shallow-depth sites which typify the park's civilian and military archeological resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Prepare an archeological overview and assessment. Conduct archeological explorations and stabilizations at a dozen structural sites of primary interpretive potential: Bernard's Cabins, Willis Hill Building, Stone Wall remnant on west side of Sunken Road, Fairview, Bullock, Maury, Wellford, Van Wert, Higgerson, Chewning, Spindle, and Harrison. Conduct archeological re-explorations and stabilizations at a half-dozen additional sites of primary interpretive potential: Stephens, Ebert, Fairfield Dependencies, Ellwood Dependencies, McCoull, and Landrum. Conduct archeological explorations at Chatham, Ellwood, Fairfield, and La Villa to locate African-American habitation

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sites. Conduct parkwide archeological survey to examine areas slated for metal-disc "seeding" and to provide the LCS-update team with a more complete inventory. Restrict all horseback riding to the artificial grades immediately bordering paved park roads; extend or reinforce those immediate borders, preferably with donated funds and labor, where necessary.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	MON	4.0	0.1
	NRNON NPS	MIT	5.0	0.0
		Subtotal:	9.0	0.1
Year 2:	PARK-CR	MON	4.0	0.1
	REGN-CR	MIT	25.0	0.3
	NRNON NPS	MIT	5.0	0.0
		Subtotal:	34.0	0.4
Year 3:	PARK-CR	MON	4.0	0.1
	REGN-CR	MIT	25.0	0.3
		Subtotal:	29.0	0.4
Year 4:	PARK-CR	MON	5.0	0.1
	CONSTR	MIT	400.0	0.5
	CONSTR	INT	70.0	0.3
		Subtotal:	475.0	0.9
		Total:	547.0	1.8

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PROJECT STATEMENT SHEET

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): ARPA NHPA

EXPLANATION:

Proposal Date: 92

FRSP-C-006.016

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-006.016

TITLE: EXPANSION OF AREA COVERED BY HIST. OVERLAY MAPS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 58.0

SERVICEWIDE ISSUES: C08 NEED ADMN HIST C22 OUT THREATS CR

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Four historical overlay maps, prepared in 1982 as updates of historical base maps, receive daily use by a variety of staff members and comprise one of the park's most important and precise Cultural Resources Management tools. Unfortunately, they do not include the Salem Church and "Stonewall" Jackson Shrine units of the park. The historical integrity of the latter unit is threatened by development; that of the former unit has already been severely damaged or destroyed by the same type of impact. The urgent need to assess past losses and anticipate and/or mitigate future threats in both units is thwarted by the lack of coverage on overlay maps. Even if the park does acquire a Geographic Information System (FRSP-I-003), installation/programming delays and limited accessibility will reduce its usefulness as a tool to accomplish the analysis now needed for these areas.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Prepare two historical overlay maps, covering the Salem Church and "Stonewall" Jackson Shrine units. Utilize the same format as that of the four overlay maps now in use.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.0	0.0

FRSP-C-006.016

PROJECT STATEMENT SHEET

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	RES	4.0	0.1
Year 2:	PARK-CR	RES	4.0	0.1
Year 3:	PARK-CR	RES	5.0	0.1
	CRPP	RES	20.0	0.2
		Subtotal:	25.0	0.3
Year 4:	PARK-CR	RES	5.0	0.1
	CRPP	RES	20.0	0.2
		Subtotal:	25.0	0.3
		Total:	58.0	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

Proposal Date: 92

FRSP-C-007.017

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-007.017

TITLE: ESTABLISHMENT OF A CULTURAL RESOURCES ARCHIVES
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 10.0 UNFUNDED: 34.0

SERVICEWIDE ISSUES: C26 OTHER

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park has large colections of: modern maps and photographs, copies of historical maps and photographs, blueprints and plans, files on past maintenance and Cultural Resources Management programs, and files on sites and structures. Unfortunately, these valuable resources are scattered throughout several different buildings; disorganized; not stored in accordance with archival standards; and otherwise maintained in a way that delays completion of Cultural Resources Management projects. Moreover, these records contribute to confusion, disorganization, and space shortages within the park's administrative archives, interpretation/research archives, and museum collection.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Prepare a records-management plan for all types of Cultural Resources documents. Prepare an adequate archives space, preferably in a dependency building at Chatham. Acquire all necessary storage equipment, including acid-free containers, metal shelves, and map racks. Move Cultural Resources documents to this central location. Obtain copies of documents that are properly part of the park's museum collection, but which are also important as Cultural Resources Management records.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	MIT	8.0	0.3
	NRNON NPS	MIT	2.0	0.0
		Subtotal:	10.0	0.3
Year 2:				
Year 3:				
Year 4:				

FRSP-C-007.017

PROJECT STATEMENT SHEET

		Total:	10.0	0.3

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	PARK-CR	MIT	5.0	0.2
	NRNON NPS	MIT	2.0	0.0
		Subtotal:	7.0	0.2
Year 3:	PARK-CR	MIT	7.0	0.2
	CRPP	MIT	12.0	0.2
		Subtotal:	19.0	0.4
Year 4:	PARK-CR	MIT	5.0	0.2
	NRNON NPS	MIT	3.0	0.0
		Subtotal:	8.0	0.2
		Total:	34.0	0.8

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

Proposal Date: 92

FRSP-C-008.018

PROJECT STATEMENT SHEET

BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0
UNFUNDED				
Year 1:	PARK-CR	RES	3.0	0.1
Year 2:	PARK-CR	RES	3.0	0.1
	REGN-CR	MIT	15.0	0.3
		Subtotal:	18.0	0.4
Year 3:	PARK-CR	RES	4.0	0.1
	REGN-CR	MIT	15.0	0.3
		Subtotal:	19.0	0.4
Year 4:	PARK-CR	RES	4.0	0.1
	REGN-CR	MIT	15.0	0.3
	CONSTR	MIT	220.0	1.0
		Subtotal:	239.0	1.4
		Total:	279.0	2.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA EA

EXPLANATION: ARPA

Proposal Date: 92

FRSP-C-009.019

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-009.019

TITLE: ESTABLISHMENT OF AN ORAL HISTORY PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 3.0 UNFUNDED: 19.0

SERVICEWIDE ISSUES: C04 ETHNOGRAPHY

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Oral history is the most neglected source of information about the park's cultural resources. Since the completion of the Historic Resources Study in 1962, park staff have conducted only about 20 taped interviews. No funds have been available for transcribing these or establishing a comprehensive, coordinated oral history program. Meanwhile, key informants--especially former CCC enrollees-steadily die or move away. Under these conditions, the evaluation teams conducting the LCS update and the surveys proposed in FRSP-C-005, 008, 011, and FRSP-I-001, 002 will be denied potentially invaluable data, especially information useful for distinguishing historic from nonhistoric elements or resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Prepare transcriptions of the taped interviews previously conducted by park staff. Following the guidelines in Collecting, Using, and Preserving Oral History in the National Park Service, plan and implement an oral history program. Make all data generated available to the evaluation teams conducting the aforementioned surveys.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-CR	RES	3.0	0.1
Year 2:				
Year 3:				
Year 4:				
		Total:	3.0	0.1

FRSP-C-009.019

PROJECT STATEMENT SHEET

	Source	Act Type	Budget ($1000s)	FTEs
		UNFUNDED		
Year 1:				
Year 2:	PARK-CR	RES	3.0	0.1
	NRNON NPS	RES	2.0	0.1
		Subtotal:	5.0	0.2
Year 3:	PARK-CR	RES	3.0	0.1
	NRNON NPS	RES	2.0	0.1
		Subtotal:	5.0	0.2
Year 4:	PARK-CR	RES	4.0	0.1
	NRNON NPS	RES	5.0	0.1
		Subtotal:	9.0	0.2
		Total:	19.0	0.6

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

Proposal Date: 92

FRSP-C-010.020

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-010.020

TITLE: INVESTIGATION OF POTENTIALLY NONHIST. SITES & STRUC
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 3.0 UNFUNDED: 8.0

SERVICEWIDE ISSUES: C02 INADEQUATE INV C07 INADEQUATE LCS

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park contains a large number of poorly identified, potentially non-historic sites and structures. The close proximity of many of these elements to historic resources threatens to delay substantially the completion of and blunt the precision of historic resource surveys such as the LCS update and those proposed in FRSP-C-005, 008, 011 and FRSP-I-001, 002. This same proximity also confuses interpretive efforts, and a lack of specific information about potentially non-historic elements distracts visitors and otherwise hinders their ability to "delete" postwar intrusions from the Civil War landscape.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Conduct research on potentially non-historic sites and structures sufficient to prepare an inventory. This should include files on and mapped locations of sites, ruins, roads, buildings, and other manmade, postwar elements. Make this data available to the evauation teams conducting the aforementioned surveys.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRNON NPS	RES	3.0	0.1
Year 2:				
Year 3:				
Year 4:				
		Total:	3.0	0.1

Proposal Date: 92

FRSP-C-010.020

PROJECT STATEMENT SHEET

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	PARK-CR	RES	8.0	0.2
Year 3:				
Year 4:				
		Total:	8.0	0.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

Proposal Date: 92

FRSP-C-011.021

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-011.021

TITLE: PREVENTION OF RELIC HUNTING
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 15.0 UNFUNDED: 75.0

SERVICEWIDE ISSUES: C20 INADEQ SECURIT

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Illegal relic hunting continues to erode the park's collection of cultural resources. Three recent incidents alone, at Spotsylvania Battlefield, resulted in extensive artifact removal and cratering of the historic landscape. Such activity has also had worrisome impact on structural remnants of the McCoull House, Jackson Shrine, Heth's Salient Brick Kiln, and other resources. The threat of relic hunting now prevents the marking and interpretation of many isolated historic sites, such as camps. Stakeouts inside the 8,000-acre park have been costly and largely ineffectual. These conditions render the General Management Plan directive to "protect park resources from unlawful and injurious activities such as relic hunting" difficult to implement.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Select a location in the park as a "test" prevention-area. Survey this with remote-sensing or other archeological techniques. "Seed" it with dated metal discs of different metals or alloys. If the test seedings are judged successful in deterring relic hunting, then the coverage should be extended to all vulnerable areas of the park.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	REGN-CR	PRO	15.0	0.1
Year 2:				
Year 3:				
Year 4:				
Total:			15.0	0.1

FRSP-C-011.021

PROJECT STATEMENT SHEET

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	NWASO-OTH	PRO	25.0	0.7
Year 3:	NWASO-OTH	PRO	25.0	0.7
Year 4:	NWASO-OTH	PRO	25.0	0.7
		Total:	75.0	2.1

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): ARPA NHPA

EXPLANATION:

Proposal Date: 92

FRSP-N-001.022

PROJECT STATEMENT SHEET

The park is bordered by one of the fastest growing communities in the United States. The potential impacts of such development include damage by increased runoff of water, sediment deposition, and the resulting degradation of wetland vegetation. To monitor such adverse effects, some baseline data on wetland plants is essential before consulting with local governments on mitigating development impacts.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Present Management) are rejected for the reasons stated below.
Alternative number three (Comprehensive Inventory of Plant Communities) is recommended.

A Comprehensive Floral Inventory would be conducted. As stated below, the analysis will identify plant communities, their composition, distribution, and interrelationships and the existence of rare, threatened, or endangered species.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	30.0	0.0
Year 2:	NRPP	RES	30.0	0.0
Year 3:	NRPP	RES	30.0	0.0
Year 4:				
		Total:	90.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: The evidence of plant diversity in the park would not

FRSP-N-002.023

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-002.023

TITLE: MANAGE/PROTECT WATER RESOURCES
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 1.0 UNFUNDED: 10.0

SERVICEWIDE ISSUES: N11 WATER QUAL-EXT N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Management of water resources is based on NPS policy, guidelines, and the Chesapeake Bay Act (VA). The Chesapeake Bay Act mandates "to reduce non-point pollution into the tributaries of the Chesapeake Bay." The Rappahannock River and the streams feeding it provide a floodplain and wetland habitat critical for the continued presence of diverse numbers of plants and animals. FRSP has land adjacent to the tidal Rappahannock, 15 fresh-water streams, beaver ponds, and numerous wetlands.

A number of threats exist to the various bodies of water within the battlefields. These include impacts associated with agricultural practices, development adjacent to park boundaries, potential overuse and contamination of groundwater, and contamination due to mineral development.

Much of the park is adjacent to agricultural lands. In addition, the park issues agricultural Special Use Permits to maintain approximately 700 acres in its historically open condition. Although these practices are more compatible with park objectives than is urban development, the injudicious use of chemicals to control pests could threatent the quality of surface and groundwater in the park. Unsound agricultural practices may also result in erosion and sedimentation which further threaten water quality.

At the present time pesticide usage is monitored by park staff and is limited to those approved by the Regional and Washington Offices. Adherence to a Soil Conservation Plan prepared in coordination with the Soil Conservation Service is required of all permittees as a condition of their permit. These plans were last revised in 1980. Farmers are encouraged to follow the "Best Management Practices" recommended by the State Water Control Board to minimize erosion.

Additional research could reveal integrated pest management approaches that would reduce impacts associated with pesticide usage. Monitoring of water resources could detect non-compliance

PROJECT STATEMENT SHEET

of farmer's permits by identifying traces of chemicals that are forbidden.

Logging activities also take place within and near the park. Since many areas that were open fields during the Civil War are now forested, an active program of clearing woodlands has been conducted in recent years to more accurately portray highly significant scenes of battle. Although these activities enhance the park's interpretive objectives, great care must be exercised to prevent adverse effects on the park's water, soil loss due to erosion, and the resulting degradation of water quality.

To prevent these and other adverse effects, some riparian woodlands are left in place when not in conflict with the portrayal of a significant historical vignette. This practice reduces sedimentation to water resources and preserves important wildlife and fishery habitat. Contracts are prepared and enforced to ensure that "Best Management Practices" for forestry, prepared by the State Water Control Board, are followed. Stumps are left in place and ground a few inches below the surface to minimize soil loss. Consultation with the Soil Conservation Service, the Fish and Wildlife Service, and State Forestry personnel takes place when planning such efforts to minimize adverse impacts.

Perhaps the greatest threat to park resources is the rapid rate of urbanization in Stafford, Orange, and Spotsylvania Counties. Important factors which affect stream quality are highway run-off, urban run-off, and construction activities; oil and chemical spills; sewer main breaks and overflows. These factors seem to be increasing in frequency, severity, and duration.

In response to the demands of an expanding population in the area, Spotsylvania County has proposed constructing a 1,000-acre reservoir that could inundate a portion of Spotsylvania Battlefield. Should the county's preliminary proposal be implemented at least one acre of the park would be flooded by the adjacent Po River and in addition, 5-10 acres converted to wetlands in the reservoir's 100-year floodplain. There would also be a dramatic reduction in the forested wetland along this portion of the river.

Existing information relating to the Park's water resources is virtually non-existent. Baseline inventory studies of park streams have never been undertaken. However, based on current development pressure adjacent park boundaries the resource management staff began gathering basic water quality data in the summer of 1992 on ph, temperature, conductivity, and dissolved oxygen in the six of the most threatened streams. No information is available on populations or diversity of aquatic organisms.

FRSP-N-002.023

PROJECT STATEMENT SHEET

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Present Management) are rejected for the reasons stated below. Alternative number three (Develop a Complete Water Resources Management Program) is recommended and would include the following.

While the park continues to gather basic water quality data, there is a clear need for a thorough evaluation of water related resources and development of a comprehensive plan for monitoring and protection.

The completion of a Water Resources Management Scoping Study is the recommended action. This effort is a first step in identifying water resource related issues and concerns, and will also provide a blueprint for the development of a comprehensive Water Resource Action Plan. In the interim, the park requests technical assistance from the Denver Service Center, Water Quality Division, to evaluate the current basic water monitoring program and make recommendations for quality control.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-NR	MON	1.0	0.1
Year 2:				
Year 3:				
Year 4:				
		Total:	1.0	0.1

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-NR	MON	10.0	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	10.0	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

FRSP-N-003.024

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-003.024

TITLE: MANAGE/PROTECT WETLANDS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 8.0 UNFUNDED: 35.0

SERVICEWIDE ISSUES: N06 LAND USE PRAC N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Wetlands are a valuable natural resource. They are among the most biologically productive ecosystems, containing abundant flora and fauna. Approximately 35% of the species listed by the federal government as rare, threatened or endangered are dependent upon wetlands for food, nesting, breeding, or other habitat requirements. In addition to providing habitat, wetlands provide a number of other important functions including: floodpeak reduction, water quality improvement by filtration, ground water recharge, reduction of pesticide runoff, shoreline stabilization, and filtration of sediment (O.T.A., 1984).

The term "wetland" encompasses a broad variety of ecotypes including marshes, estuaries, bogs, fens, swamps, and bottomland hardwood forests. Some wetlands are saturated with water only for a brief period during the growing seasons, which often makes their identification difficult to the casual observer.

Two hundred years ago the continental U.S. had an estimated total of over 200 million acres of wetlands. Less than 45% of that acreage now remains. NPS guidelines for implementation of Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands) directs the Service to avoid the long-and short-term adverse impacts associated with the modification of floodplains and the destruction or modification of wetlands. It also directs the NPS to improve and coordinate research, plans, programs, and actions involving wetlands in such a manner that the nation may attain the widest range of benefits from them (Federal Register, Vol. 45, No. 104, May 28, 1989.)

Further protection of wetlands has been mandated by the State of Virginia with passage of the Chesapeake Bay Act. This Act establishes Resource Protection Areas (RPA's), defined in the Local Assistance Manual 3.2 B1 of the Regulations as, "...inclusion of tidal wetlands, as well as non-tidal wetlands which are both contiguous and connected by surface flow to either tidal wetlands or tributary (perennial) streams...." All the park's perennial streams, in order to comply with the act, must

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have a designated 100-foot buffer or RPA adjacent to each wetland.

At FRSP an active program of historic scene restoration involves clearing of woodlands that were nonexistent during the historic period of 1862 to 1864. In addition, approximately 700 acres of park land is leased to area farmers under agricultural Special Use Permits. Parkland meeting the Federal Manual (1989) criteria defining wetlands exist in areas proposed for future scene restorations, hiking trails, and in areas leased under the farm program. To meet the objectives of interpreting the historic scene while adhering to the national policy of wetland protection and preservation, requires a coordinated planning effort to ensure the perpetuation and preservation of the park's remaining wetlands.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Discontinue Scene Restoration/Agricultural Programs) are rejected for reasons stated below. Alternative three (Delineate Wetlands and Provide for Protection/Mitigation) is recommended.

The baseline information provided by such a comprehensive survey would greatly facilitate park planning. Unnecessary impacts could be avoided and the procedures for compliance would be assured. Although some wetlands have been identified on 7-1/2 minute quadrangles by the USFWS, they only include those that were detectable on aerial photographs taken at very high altitudes.

The proposed survey would produce a map which clearly delineates all wetlands within the park according to the Federal Manual Standards. They would be classified according to the Cowardin, et al, (1929), Classification System. Base maps with a scale of 1:2400 would be produced for inclusion in the park's.

BUDGET AND FTEs:

	FUNDED		
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PARK-NR		2.0	0.1
Year 2:	PARK-NR		2.0	0.1
Year 3:	PARK-NR		2.0	0.1
Year 4:	PARK-NR		2.0	0.1
		Total:	8.0	0.4

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	Source	Act Type	Budget ($1000s)	FTEs
		UNFUNDED		
Year 1:	WATER RES	RES	30.0	0.0
	PARK-NR	MON	5.0	0.3
		Subtotal:	35.0	0.3
Year 2:				
Year 3:				
Year 4:				
		Total:	35.0	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: The farm program and scene restoration efforts would continue, but sensitive wetland areas might be overlooked. This could unnecessarily impact wildlife habitat, increase erosion, and produce many other untenable environmental consequences. Without delineation it would inhibit compliance with Section 4 of the Clean Air Act and Executive Order 11990.

Discontinue Scene Restoration/Agricultural Programs: This alternative would maximize protection to wetlands, but would prevent adequate interpretation of the park's historic themes, thus preventing its primary objective from being accomplished.

Delineate Wetlands and Provide for Protection/Mitigation: Under this alternative a comprehensive inventory and delineation of areas meeting the Federal Manual's criteria of wetlands would be undertaken. This would provide a baseline of information fundamental to making sound management decisions. This would also allow for consideration of wetland values while achieving the overall objective of historic scene preservation and interpretation. If such an inventory is not undertaken an evaluation of each project on a site-by-site basis would be necessary to determine if the area includes a wetland.

Resource Protection Areas (RPA's) would be delineated along all 16 streams within the park. This action would establish filter strips along water courses providing protection from sources of non-point pollution such as agricultural run-off, roadways, and development sites.

COMPLIANCE CODE(s): EA EIS

EXPLANATION:

FRSP-N-004.025

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-004.025

TITLE: ABATEMENT OF TREE HAZARDS
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 240.0 UNFUNDED: 100.0

SERVICEWIDE ISSUES: N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

There are a number of areas within the park where trees pose a special risk to personal safety and property. These include roads, trails, and public use areas such as wayside exhibits, picnic areas, and the grounds of visitor centers. Trees prone to failure are not always easily recognizable and may appear to be healthy by outward indications. The Service has a responsibility to make reasonable provisions to protect visitors from identifiable hazards without unduly manipulating the natural environment.

A Hazard Tree Abatement Plan has been prepared for FRSP. This plan sets specific standards of safety and management for different zones within the park. The plan proposes an annual inspection to identify potential hazards in developed areas, an inspection every fourth year for roads (cyclic treatment for each of the park's four battlefields), and no action for "backcountry" areas. These inspections are performed by personnel trained in hazard tree identification. If the tree examined is expected to fail before the next scheduled survey (1-3 years), it will be marked for subsequent removal, limbing, or other arboricultural treatment. When appropriate, trees less prone to disease, insects, and human impacts will be planted to replace trees that are removed. Stump sprouts may also be protected to provide replacement trees.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternatives one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative number three (Implement Hazard Tree Abatement Plan) is recommended.

A comprehensive systematic inventory system would be implemented by FRSP. This system will enable the park to stay on top of all NPS guidelines and standards.

Maintenance and Resources Management staff will perform routine,

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scheduled inspections of all visitor use areas to identify potential hazard trees. Park boundaries adjacent to private homes would be inspected once a year to prevent possible property damage. Structural indicators of tree decline will be examined and the level of hazard documented.

All personnel assigned hazard tree control duties would receive training in hazard tree identification and removal/treatment techniques.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	PKBASE-OT	MIT	60.0	1.5
Year 2:	PKBASE-OT	MIT	60.0	1.5
Year 3:	PKBASE-OT	MIT	60.0	1.5
Year 4:	PKBASE-OT	MIT	60.0	1.5
		Total:	240.0	6.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	CYCLIC-RG	MIT	25.0	0.0
Year 2:	CYCLIC-RG	MIT	25.0	0.0
Year 3:	CYCLIC-RG	MIT	25.0	0.0
Year 4:	CYCLIC-RG	MIT	25.0	0.0
		Total:	100.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: This alternative is unacceptable due to the potential of visitor and employee injury from a hazardous tree.

Continue Present Management: Not all potential tree hazards would be identified. Visual observations would continue and work would be conducted on a random basis. The potential of hazardous tree injury and tort claims would be greater than alternative number three (3). Some trees that are not hazardous could also be removed simply at the discretion of tree crews, thus removing important buffers or valuable wildlife habitat.

FRSP-N-004.025

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Implement Hazard Tree Abatement Plan: A comprehensive, detailed inventory and inspection of all developed areas, roads, and heavily used trails would be made. The objective of hazard evaluation and control is to provide an acceptable level of public safety at minimum cost and with the least damage to the cultural and natural environment.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

FRSP-N-005.026

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-005.026

TITLE: DEVELOP FIRE MGMT PROGRAM TO INCL. RX FIRE COMP
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 16.0 UNFUNDED: 40.0

SERVICEWIDE ISSUES: N20 BASELINE DATA N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park has approximately 8,000 acres of forest and grassland capable of burning. FRSP fire management objectives are to effect the expedient suppression of all wildfires regardless of cause or mode of ignition. The park contains many irreplaceable historic structures, including Ellwood, Chatham Manor, Jackson Shrine, CCC structures, and others, that must be protected from fire. The FRSP Structural Fire Management objectives are to prevent all structural fires; to protect NPS personnel, visitors, artifacts and buildings, determine deficiencies in fire protection, and develop priorities for corrective actions. Also, the historic scene, a mosaic of fields and forest, plays an integral part in the interpretation of battle actions that must be protected from damage caused by uncontrolled wildfires.

The conversion of 357 acres of forest to field, as outlined in the park's GMP, will create a strain on the Roads & Trails Crew to maintain these open areas. Prescribed fire could play a role, as proposed in FRSP-I-001, in promoting the establishment of native greasses on earthworks and open fields, thereby reducing the current demands for mechanical mowing.

Most of the wildfires occurring on or adjacent the park are human caused. The park maintains a fire engine, two fire tool caches, and a minimum of eight red-card personnel to respond to wildfires. Call out procedures have been established and Memoranda of Understanding are maintained with the Virginia Division of Forestry and the Chancellor Volunteer Fire Department.

No major fires have occurred in the park in recent years. However, smaller fires less than ten (10) acres occur on the average of three (3) per year. Early detection and suppression prevent their spread and have kept resource damage to a minimum.

Proposal Date: 92

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DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The No Action alternative is rejected for reasons stated below. Alternative two (Continue Present Management) is recommended.

Management would continue to update, approve and implement FRSP Wildland, Structural, and Prescribed Fire Plans according to NPS-18 guidelines.

The park will strive to achieve one qualified Prescribed Burn Boss from among the park's cadre of firefighters. A cooperative effort with other Virginia parks will be necessary in order to execute prescribe burns and provide required training assignments for prescribed fire positions.

Consultation would include the Regional Fire Management Officer, Boise Interagency Fire Center, and local fire departments.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	FIRE	MIT	4.0	0.0
Year 2:	FIRE	MIT	4.0	0.0
Year 3:	FIRE	MIT	4.0	0.0
Year 4:	FIRE	MIT	4.0	0.0
		Total:	16.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	FIRE	MIT	10.0	0.0
Year 2:	FIRE	MIT	10.0	0.0
Year 3:	FIRE	MIT	10.0	0.0
Year 4:	FIRE	MIT	10.0	0.0
		Total:	40.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: Failure to comply with NPS policy on wildfire and structural fire would result in the loss of valuable resources. This alternative would be unacceptable to the public because of

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the threat imposed upon private property and structures.

Continue Present Management: This alternative would continue present management with the updating of the park's Fire Management Plan and gaining approval of plans from the Regional Office and Branch of Fire Management. Fire suppression would be continued by FRSP staff playing the lead role in wildland fires and the local fire companies in structural fire suppression. Cooperative agreements would be written or updated with fire companies in Spotsylvania, Orange, Stafford, and Caroline Counties, as well as the City of Fredericksburg.

Research would be conducted on the feasibility into the use of low intensity prescribed fires to maintain some of the park's historic fields and earthworks. Site specific prescribe fire plans will be prepared in close consultation with county governments, local fire departments, the Virginia Air Quality Division, cultural & archeological specialists, and the Regional Fire Management Officer. FIREPRO monies would be sought to fund research, planning site preparation, equipment, and additional personnel necessary to execute burns and monitor their behavior and effectiveness.

COMPLIANCE CODE(s): ARPA NHPA

EXPLANATION: EA

Proposal Date: 92

FRSP-N-006.027

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-006.027

TITLE: INVENTORY AND MONITOR WILDLIFE PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 102.0

SERVICEWIDE ISSUES: N20 BASELINE DATA N02 T&E ANIMAL

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park is an 8,000 acre, eight-unit park that is spread out over approximately 110-square miles. Habitats consist of wetlands, tidal river and tributaries of the Chesapeake Bay, grasslands, and forest of the coastal plain and piedmont region. There has never been a systematic study of the faunal communities of the park and how rapid urban growth may be impacting these populations. In addition, the park is implementing abitious plans to restore the historic battlefields that have become reforested and to replant other areas that are now open, but were historically wooded. The effect of this work on the native fauna has not been documented and a thorough study is needed to mitigate the possible effects of management actions on potential critical animal habitat.

Although there are no known rare, threatened, or endangered species currently listed for the area, this may be the result of academia's lack of interest in the study of piedmont faunal species. Park records indicate several observations of State listed "Sensitive" bird species and one mammal, the River Otter.

Until wildlife becomes a hazard to visitors, park property, agricultural crops, or the health of its population is threatened, it is allowed to exist freely within the ecosystem. Deer populations are causing significant damage to corn and cereal crops. Objective information on the deer and other wildlife populations is needed to evaluate results of current and proposed management actions.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) and two (Continue Current Action) are rejected for reasons stated below. Alternative number three (Initiate An Inventory and Monitor Program For Wildlife) is recommended.

Continue present management while seeking funding for graduate students or consultants to prepare an inventory and monitoring

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animals. All data collected would be used to establish baseline information and acceptable limits of change. Funding would be necessary to accomplish this effort.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

FRSP-N-007.028

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-007.028

TITLE: PROTECT AIR QUALITY RELATED VALUES
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 45.0

SERVICEWIDE ISSUES: N14 AIR POLLUTION N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The area surrounding Fredericksburg has experienced a surge of growth in the past decade as a direct result of increased use of I-95 as a major north-south transportation corridor. This expansion has resulted in new industries, increased development, and traffic adjacent to the park. In 1992, Stafford County was listed as a "non-attainment" area under the Clean Air Act, suggesting serious air quality problems. Hydrocarbon pollution from three major areas, Washington, D.C., Richmond, and Fredericksburg metro areas, are potential contributors to the decline of air quality in the park. Air pollution may be causing yet undetermined impacts on the park's natural and cultural resources.

The park was designed as a Class II park in the Clean Air Act of 1977. This designation relates to the amount of air quality degradation that is allowable. This classification allows only moderate amounts of degradation of the existing air quality condition. New sources must prove that the "increment" of additional pollution is below that allowed to "prevent significant deterioration." It is also incumbent upon the federal government to protect the air quality related values that have national significance as a provision of this act.

Recent studies by the U.S. Geological Survey found the most acidic rain in the nation was measured in Virginia, with the northern third of Virginia recording the highest levels. The major source of acidic pollution and sulfur, comes from coal-burning plants. In 1991, a 350MW-800MW Coal-Fired Power Plant was approved less than ten miles from the park. A large regional trash incinerator plant first proposed 1989, may become a reality someday with the increased demands of growth. These sources, if built, could substantially increase the load of criteria pollutants; photochemical oxidants, nitrous oxides (NOx), sulfur dioxide (SO2), and total suspended particulates. Sensitive resources that are threatened by poor air quality included scenic vistas. Critical vistas include: Chatham Manor and City of Fredericksburg; Lee Hill/City of Fredericksburg;

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Marye's Hieghts; Prospect Hill; Flank Attack at Chancellorsville; Hazel Grove; Bloody Angle; and Saunder's Field. Impairment of visibility in these areas would dramatically reduce the ability to interpret these sites and the role they played in the battle fought here.

The park contains many monuments, memorials, and historic structures that are constantly exposed to the polluted elements. Authorities in the field of outdoor monumentation are concerned that the increase in air pollution, especially sulfur dioxide content, which has occurred over the past 60-70 years has been particularly destructive to bronze, stone, and marble structures. Although the effects of air pollution and acid rain on natural systems is not comprehensively documented, certain forested areas and individual plant species in the northeastern states and southern Appalachian region are suspected of dying as a direct result of air pollution.

A number of plant species native to the park are known to be susceptible to air pollution. Recent surveys have indicated ozone injury to common milkweed, yellow poplar, black cherry, white pine, and flowering dogwood. Continued degradation of air resources could eventually decrease the plant diversity extant during the historic period.

Current monitoring activities include an annual assessment of ozone injury to vegetation and quarterly photo-documentation of visibility from significant vistas.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) is rejected because it would violate congressional mandates.

A combination of alternative two (Continue Current Management) and three (Establish Air Quality Management Program) is recommended.

The park would seek out and maintain lines of communication with state and agency officials. Information pertaining to local industrial activities which might impact air quality will be forwarded to appropriate officials for comment.

Plant damage surveys would expand beyond the milkweed samples to include woody species. This should augment a trend analysis of injury to vegetation.

Research/Monitoring into the effects of air pollution on the many monuments, markers, cannon, vegetation, buildings, etc. should be carried out to determine the impact on the park's cultural and natural resources. Research should be initiated by a thorough survey of the park's sensitive air quality related values. An

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air quality monitoring program needs to be established in the park, or other suitable local site, through cooperation with other state and federal agencies, to determine pollutant levels and their impacts on resources.

BUDGET AND FTEs:

----------FUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

----------UNFUNDED----------

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	RG-NR-RM	RES	15.0	0.1
Year 2:	RG-NR-RM	MON	15.0	0.1
Year 3:	PARK-NR	MON	10.0	0.2
Year 4:	AIR QUAL	MON	5.0	0.1
		Total:	45.0	0.5

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: This alternative is not acceptable because continued deterioration of park resources does not meet congressional mandates.

Continue Current Management: Analysis of vegetation would be limited to the annual milkweed-ozone survey. New sources of pollution would be identified and commented on in appropriate forums. However, the level of effort would probably not be sufficient to scientifically document adverse effects, nor would there be records of ambient levels of criteria pollutants. The park would continue to maintain contacts with the Virginia Air Pollution Control Board and the NPS Air Quality Division.

Establish Air Quality Management Program: Establish a data link with the Virginia Air Pollution Control Board and Air Quality Monitoring Stations in Stafford and Fauquier counties. Identify

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criteria pollutants that pose the greatest and most immediate threat to park resources and gather data on these pollutants from state air monitoring stations.

Respond to development proposals/actions that the park suspects will cause damage to air quality values. Offer support and assistance to state monitoring programs upon request.

Monitoring of vegetative impacts would be expanded to include several tree species used in maintaining buffer strips.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

FRSP-N-008.029

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-008.029

TITLE: MANAGE GYPSY MOTH INTEGRATED PEST MGMT PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 26.0 UNFUNDED: 156.0

SERVICEWIDE ISSUES: N04 NON-NAT ANIMAL N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The integrated pest management approach to detect, monitor, and maintain gypsy moth infestations at low levels by promoting natural controls is being used at the park.

Monitoring of Chancellorsville Battlefield in 1991, indicated high levels of gypsy moth infestations in the oak trees of the visitor center and picnic area. New areas of infestation included: Ellwood; Bloody Angle; Slocum Drive; and Hooker Drive. Light to moderate defoliation of individual and small groups of trees is predicted for these areas in 1992. Treatment efforts will be concentrated in these areas.

Along with intensive monitoring by the park resource management staff, a variety of intervention techniques are used including ground and aerial spraying of BT (Bacillus thuringiensis). Release of parasites such as Cotesia melanoscelus will be tried in 1992.

The park has three years of monitoring data that indicated a slow southern movement of the gypsy moth. Extensive areas of private forestland just five miles north of Chancellorsville received heavy defoliation in 1991. It is expected that the park will continue to be threatened with gypsy moth defoliation for several years.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative one (No Action) is rejected for reasons stated below. Alternative number two (Continue Present Management) is recommended.

The development of a Gypsy Moth Management Plan and Environmental Assessment will occur when intervention is required. The current monitoring program will continue with the cooperation of the U.S. Forest Pest Management Office. Baseline data will be mapped and stored to be eventually transferred to a geographic information system.

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BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:	FED-OTHER	MON	11.0	0.4
	FED-OTHER	MIT	15.0	0.0
		Subtotal:	26.0	0.4
Year 2:				
Year 3:				
Year 4:				
		Total:	26.0	0.4
UNFUNDED				
	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:	FED-OTHER	MON	11.0	0.4
	FED-OTHER	MIT	30.0	0.0
		Subtotal:	41.0	0.4
Year 3:	FED-OTHER	MON	15.0	0.5
	FED-OTHER	MIT	35.0	0.0
		Subtotal:	50.0	0.5
Year 4:	FED-OTHER	MON	15.0	0.5
	FED-OTHER	MIT	50.0	0.0
		Subtotal:	65.0	0.5
		Total:	156.0	1.4

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: This is not an acceptable alternative because it assumes the park is not concerned with gypsy moth defoliation. Under this action the park would not be supporting it's mandate to protect and preserve the cultural scene.

Continue Present Management: A comprehensive monitoring program is in place. Park units will continue to be monitored through the use of egg mass, larvae, and adult moth surveys. Environmentally sound intervention techniques will be used when

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monitoring indicates gypsy moth populations necessitate control measures.

COMPLIANCE CODE(s): EA

EXPLANATION:

Proposal Date: 92

FRSP-N-009.030

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-009.030

TITLE: EVAL. VALIDITY OF MINERAL RIGHTS & DEVEL. POTENTIAL
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 30.0

SERVICEWIDE ISSUES: N10 MINRL/GEOTHERM N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The interest in mining of gold, iron, uranium, and other precious metals has occurred in the resent past. There are a number of abandoned gold mines, iron pits, and gravel quarries in and around the park. At least one company has done test borings of a number of old mines to see if it would be economically feasible to restart production. In addition to that, Marline Corporation has been seeking permission to mine uranium in the state for a number of years. To date they have been unsuccessful in obtaining a permit, but if they should succeed, one area of their proposed mining, along the Rapidan River, could possibly impact resources of the park. In 1991, Texaco began oil exploration in the Taylorsville basin within 30 miles of the park. The effects of this effort, or the impacts of potential oil production on park resources remains unknown.

Sand & gravel extraction is a major industry in the Rappahannock River basin. The park has been the site of such activity dating back to the 1800's. In 1991, the park stabilized the slope of an old quarry that threatened the integrity of the Fredericksburg National Cemetery. Currently no mining occurs in or adjacent to park property; however, the park must remain vigilant in its efforts to monitor claims that pose a threat to park resources.

Current management actions are limited to spradic inventories of potential mining efforts and dealing with them on a case-by-case basis.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Under alternative number one (No Action) the park would not meet it's legislative mandate to protect and preserve resources, therefore, it is rejected.

A combination of alternatives two (Continue Present Management) and three (Research Mining Claims and Evaluate Potential Mineral Exploration) is recommended. The park will continue to seek funding for a thorough evaluation of existing and potential

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mining claims. At present the park will make every effort to stay informed about potential mining activities and make recommendations on mitigating impacts from adjacent areas. Monitoring of mining activities next to the park would be undertaken. The data gathered would help determine appropriate management actions.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	ENER-MIN	RES	10.0	0.0
Year 2:	ENER-MIN	RES	10.0	0.0
Year 3:	ENER-MIN	MIT	10.0	0.0
Year 4:				
		Total:	30.0	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: Management would ignore the potential threats to park resources from mining claims within the park and adjacent land owners.

Continue Present Management: The status of mining claims in and around the park would continue to be unknown. The park would monitor the state and federal permitting process and make comments on any potential mining explorations that may pose a threat to park resources. Consultations with the Denver Service Center, Branch of Mining and Minerals would continue.

Research Mining Claims and Evaluate Potential Mineral Exploration: The study would establish baseline data on all existing mining claims within the park and on adjacent lands.

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Identify those valid mining claims that could potentially create problems for park managers in future years, while making a concerted effort to purchase mining rights that may exist in the park.

The park will mitigate, as needed, any abandoned mine land sites determined to be a threat to public safety, cultural or natural resources. Cultural and archeological review of each site would be necessary for compliance with Section 106 of the National Historical Preservation Act and Archeological Resource Protection Act. Consultations with the Denver Service Center, Branch of Mining and Minerals would continue.

COMPLIANCE CODE(s): EA NHPA

EXPLANATION: ARPA

Proposal Date: 92

FRSP-N-010.031

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-010.031

TITLE: DEVELOP TRAIL MANAGEMENT PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 60.0

SERVICEWIDE ISSUES: N22 VIS USE-DEV ZN C18 CTRL VIS IMPAC

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER: 225

PROBLEM STATEMENT:

The park has over 23 miles of trails in various conditions ranging from well maintained multi-use trails to poorly maintained foot paths. Trails are receiving increased use for recreation because of expanding residential growth of the area. As new homes and subdivisions crowd park boundaries these trails require an established development and management program. Horse use and illegal motorbike riding is causing deep rutting and erosion of trailways.

The trail network plays an integral part in the interpretation of troop positions, earthworks, and other important aspects of the battlefields. Some heavily used trail are in extremely poor condition. Improved inventories of trail conditions and maintenance needs would permit substantially better management. Without regularly scheduled trail evaluations and maintenance, park trails will continue to deteriorate causing visitor safety problems, resource damage to cultural resources, and increased erosion.

The current maintenance system is based on the submission of work orders. These work requests often receive a low priority due to inadequate staff. Much of the trail work depends on volunteer help to establish and maintain them. No cyclic inspections or repairs are made.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternatives number one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative number three (Develop A Trail Maintenance and Management Program) is the preferred action.

Develop a comprehensive maintenance/management program and bring the trail system up to NSP standards. Seek funding to increase base to support this effort.

FRSP-N-010.031

PROJECT STATEMENT SHEET

BUDGET AND FTEs:

	Source	Act Type	Budget ($1000s)	FTEs
FUNDED				
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0
UNFUNDED				
Year 1:	CYCLIC-RG	MIT	10.0	0.0
	PKBASE-OT	MIT	20.0	0.3
		Subtotal:	30.0	0.3
Year 2:	CYCLIC-RG	MIT	10.0	0.0
Year 3:	CYCLIC-RG	MIT	10.0	0.0
Year 4:	CYCLIC-RG	MIT	10.0	0.0
		Total:	60.0	0.3

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: NPS guidelines and standards would not be met under this alternative, and resource damage would continue to occur.

Continue Present Management: Severe trail damage threatening visitor safety or resources would be repaired. However, cyclic inspections and coordinated efforts to repair trails will continue to be relegated a low priority by the demands placed on present maintenance staffing.

Develop A Trail Maintenance and Management Program: Complete a comprehensive inventory and review of the existing trail system, its physical design, and use. Maintenance and management plans would be developed which clearly define the role of each division and volunteers in trail management. The trail system would be brought up to NPS standards for foot pathways and these standards would be codified in the trail plan. An increase in base operating funds is necessary to accomplish this effort.

FRSP-N-010.031

PROJECT STATEMENT SHEET

COMPLIANCE CODE(s): EA NHPA

EXPLANATION:

Proposal Date: 92

FRSP-N-011.032

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-N-011.032

TITLE: DEVELOP EXOTIC PLANT MANAGEMENT PROGRAM
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 60.0

SERVICEWIDE ISSUES: N05 NON-NAT PLANTS N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Exotic plants were intentionally planted by the CCC in the 1930's as a method to protect earthworks. These plantings as well as the encroachment of other exotics from adjacent lands now threaten the natural flora.

The NPS is responsible for control and eradication of alien species when they pose a threat to park resources, public health, recreational enjoyment, and when they disrupt the accurate presentation of the historic scene, damage historic or archeological resources, or interfere with natural processes and perpetuation of native species.

Several exotic plants species including Tree of Heaven, Princess Tree, English Ivy, Wisteria, Vinca, and Japanese Honeysuckle, exist in many areas of the park. These exotic plants have become well established and have begun to threaten the native forest species, the accurate presentation of the historic scene, and the ecological balance of native plant communities. Also, the very aggressive Kudzu Vine has been found growing on lands just outside the park. This vine is a primary concern to managers because of it's rapid growth potential and ability to thwart even the best efforts of control.

At present the park has no baseline information on the distribution of exotic plants or their potential threats to park resources. An exotic survey and mapping effort needs to be conducted.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Alternative number one (No Action) and two (Continue Present Management) are rejected for reasons stated below. Alternative number three (Develop and Implement An Exotic Plant Management Program) is recommended.

A comprehensive Exotic Plant Management Plan should be prepared for the park and funds for implementation requested. An active

PROJECT STATEMENT SHEET

control program would begin. Park staff would monitor and map results to determine the effectiveness of the program.

BUDGET AND FTEs:

FUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.0	0.0

UNFUNDED

	Source	Act Type	Budget ($1000s)	FTEs
Year 1:	NRPP	RES	15.0	0.0
Year 2:	NRPP	MIT	15.0	0.0
Year 3:	NRPP	MON	15.0	0.6
Year 4:	NRPP	MON	15.0	0.6
		Total:	60.0	1.2

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

No Action: If no action is made to control exotic plants, these species could out compete native species. Disruption of the natural ecosystem would occur. The natural and cultural scenery along roadways, earthworks, and fields could possibly become dominated by exotics, which favor these disturbed soils and habitats.

Continue Present Management: Sporadic documentation of exotic plant locations would continue. Exotic tree species and vines that threaten visitor safety in public use areas would be controlled. When Kudzu Vines are discovered growing in the park, resource management staff would take agressive action to remove them and eliminate the chance of their becoming permanent members of the park flora.

Develop and Implement An Exotic Plant Management Program: This alternative would propose the implementation of a comprehensive Exotic Plant Management Plan and a complete inventory and

FRSP-N-011.032

PROJECT STATEMENT SHEET

evaluation of all exotics. The inventory would be mapped and priorities established for plant control. High priority for management will be given to those exotic plants that have potential for substantial impact on park resources and that can effectively be controlled. Low priority will be given to those that result in little resource damage and probably cannot be controlled. Exotics growing on earthworks would be carefully evaluated to determine if control efforts are necessary, if so, the eradication technique must not impact the integrity of these structures. This action would continue to protect and preserve the park resources and faithfully represent the historic scene.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E(2)

Proposal Date: 92

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BIBLIOGRAPY

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WILDLAND FIRE MANAGEMENT PLAN

Fredericksburg & Spotsylvania
National Military Park

January 7, 1987

Submitted by: _____
Michael K. Johnson, Chief Ranger

Recommended by: _____
James R. Zinck, Superintendent

Approved by: _____

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Wildland Fire Management Plan

I. INTRODUCTION

Fredericksburg and Spotsylvania County Battlefields Memorial and National Cemetery were established by an Act of Congress approved February 14, 1927. (44Stat.1091)

The purpose of the park is to "commemorate the Civil War battles of Fredericksburg, Spotsylvania Court House, Wilderness, and Chancellorsville and emplacements, walls, or other defenses or shelters used by the armies in the said battles ... and to make the historical points accessible to the public and to students of said battles..."

The total authorized acreage of the park is 5,909.02 of which 5,304.46 acres are currently under federal ownership. When completed, some 5,371 acres (91%) of the parks total acreage will be managed as historic.

II. FIRE MANAGEMENT OBJECTIVES

Historically wildfire has not played a significant role in perpetuating the ecological scene in the Fredericksburg area or in the park. In addition, the park is small in size, contains many historical resources, and is tightly surrounded by heavily populated communities. These factors make it necessary to suppress all wildland fires that occur within or near the park. Specifically, the fire management objectives of this park are:

1. Prompt suppression of all wildfires whether natural or man-caused.

2. To minimize the negative impacts on the resources from all wildfires and suppression activities.

3. To cooperate with the Virginia Department of Forestry and local fire companies to provide fire protection to park lands and adjacent lands with the minimum of disturbance of historic ground.

III. BACKGROUND FIRE INFORMATION

A. Fire History

There are accounts of the surrounding woods catching on fire during Civil War battles but these fires caused little damage and had no permanent effect on the forests. Recent fires have also had little permanent effect on the park resources. The park averages 5 fires per year.

B. Fire Effects

Wildfires are usually low intensity ground fires. Usually they cause little damage to vegetation. However, during periods of low fuel moisture in both dead and live vegetation, the heat wildfires generate is intense enough to severely scorch the bark on deciduous trees. These trees often die within 1-2 years following the fire.

C. Vegetation and Fuels

The park has approximately 5295 acres of forests and 1205 acres of fields (acreage totals include land owned by the park but outside the authorized boundary). The Park is comprised of 3 basic fuel models: (1) mature pine forest (fuel model P) with a heavy concentration of overmature, dead, and downed trees, (2) eastern hardwood climax forest (fuel model E/R), and (3) perennial grass fields (fuel model L). There are also areas of heavy concentrations of some explosives fuels such as Mountain Laurel and approximately 200 acres of Loblolly Pine tree farms. Wildfires in these tree farms would present fire situations which the Park is incapable of controlling. Mountain Laurel has a high degree of flammability and can burst into flames. This poses a serious threat to the lives of firefighters accustomed to slow moving ground fires.

D. Fire Behavior

The wildfires that occur in the Park and surrounding counties are usually low intensity creeping ground fires that involve leaf or needle litter, grasses, and small shrubs. Most fires are contained to less than 1 acre in size. The largest fire that has occurred in the park was a 10 acre fire in 1981. However, 200 acre fires have occurred in the surrounding counties in fuel types identical to those in the park. During severe fire seasons, in which rainfall is limited and winds are high, wildfires are larger and more intense. In certain fuel models crown fires have occurred and caused serious resource damage and property destruction.

E. Topography

Elevations in the Park range from sea level to 440 feet. The land varies from level to steep hills. A gently rolling terrain of less than 25% slope predominates. Topography is usually not a factor in fire suppression activities.

F. Climate

The area has cold winters and hot and humid summers. Average rainfall is 42 inches. Average snowfall is 18 inches per year. Prevailing winds are south-

westerly in summer and northwesterly in winter. Electrical storms are common but are almost always accompanied by rain.

The area's climate creates the 2 fire seasons that occur each year. The spring fire season, March 1 to May 15, occurs during the dry spell that follows the last winter snow and prior to the greenup of vegetation. The fall fire season, October 1 to December 15, occurs after deciduous leaves start to fall and prior to winter rains and snow.

IV. PARK FIRE MANAGEMENT POLICY

As stated in the fire management objectives it is the policy of this park to suppress all wildfires whether natural or of human origin. This policy is adopted in conjunction with Department Manual 910, section 1.3A which states that wildland fires which threaten life, man-made structures, or natural resources and/or facilities will be suppressed. Our limited contiguous land base and proximity to develop areas form the basis for this strategy.

Only minimum impact suppression methods, such as hand-lines and wet lines, will be used unless life threatening or extreme property damage situations arise. This is in accordance with 910-DM 1.3B. The park contains approximately 38 miles of historic earthworks scattered throughout all units of the park, along with numerous other known and unknown archaeological sites. These cultural resources would be severely impacted or completely obliterated by the use of heavy equipment to build fire lines. Use of fireplows, etc. is spelled out in existing Memorandums of Understanding with local cooperating agencies.

The park will maintain a minimum of 10 trained fire-fighters, a wildland fire pumper, and four fire caches with sufficient equipment to handle the third worst year fire situation. In addition, Memorandum of Understanding with neighboring fire departments and the Virginia Department of Forestry will be maintained in accordance with 910-DM 1.6 section B paragraph 2 and section C paragraph 1.

V. MOBILIZATION

A. Park Fire Organization - Key Park Personnel

1. Chief Park Ranger

Responsibilities: The Chief Park Ranger is the representative of the Superintendent in the fire support function and serves as the park's fire

coordinator. The Chief Ranger is responsible for developing the park's presuppression and suppression programs and the implementation of these programs. He/she is responsible for the park's fire management plan and Memorandum of Understanding with the Virginia Department of Forestry and local fire companies. The Chief Ranger will provide adequate personnel, supplies, and equipment to meet the initial attack requirements of the park. The FIREPRO system will be implemented by the Chief Ranger. The Chief Ranger establishes and maintains communications with the MARO fire management specialist and other agencies for support or funding requests.

In suppression activities the Chief Ranger may assume the position of Incident Commander upon arrival at the fire scene. Normally the Chief Ranger will serve as liaison officer between the Incident Commander, Superintendent, public media, and MARO. He/she will also assign personnel, equipment, tools, etc. to the fire as requested by the Incident Commander. The Chief Ranger must give approval before a fire plan is used on a wildfire.

2. Supervisory Park Ranger

Responsibilities: The Supervisory Park Ranger is responsible for the development and maintenance of his/her employees as qualified firefighters through adequate training programs. He/she will schedule enough manpower to meet the park's initial attack requirements. The Supervisory Ranger is responsible for the daily maintenance of the parks fire caches and fire truck.

In suppression activities the Supervisory Ranger will act for the Chief Ranger in his/her absence. He/She may also serve as Incident Commander.

3. Resource Management Ranger

Responsibilities: The Resource Management Ranger will serve as the park's Fire Control Officer (FCO). The FCO will be Crew Boss qualified at the minimum. The park's fire management plan and cooperative agreements are drafted by the FCO. The FCO is responsible for the application of the FIREPRO program to accomplish the park's suppression and presuppression programs. The FCO will have intimate knowledge of the National Fire Danger Rating System and use it to prepare a step-up plan based on manning classes. The FCO takes daily fire weather readings during fire season and calculates the park's burning index. The FCO prepares and

maintains the park's record systems, weather data, maps, and other information related to the NFDRS and FIREPRO.

He/she trains park employees in 100-200 level "S" series firefighting courses and maintains personal contact with the Virginia Division of Forestry, staying abreast of their fire control activities. The FCO will maintain an adequate cache of supplies, materials, and firefighting equipment at Fredericksburg, Spotsylvania, Chancellorsville, and Jackson Shrine to meet normal and expected needs. He/she maintains accountability of equipment and supplies at fire caches and sharpens and conditions tools. The FCO also performs regular maintenance of the park's fire truck to ensure its immediate availability.

In suppression activities the FCO may serve as Incident Commander on all Class C (10 acres) or larger fires unless relieved by the Chief Ranger or the Supervisory Park Ranger.

4. Ranger Division Secretary

Responsibilities: The ranger division secretary will serve as Incident Dispatcher. The Incident Dispatcher will establish and maintain communications with the Incident Commander and dispatch necessary personnel and equipment as directed by the Incident Commander. A radio/telephone log of all significant transmissions and disposition of forces will be maintained by the Incident Dispatcher.

5. Ranger Staff Personnel

Responsibilities: Battlefield rangers are responsible for maintaining a red-card rating of at least firefighter. They are also responsible for daily maintenance of any fire caches in their area. Battlefield rangers will carry, in their patrol cars, at least two firefighting hand tools and personal safety gear including hard hat, goggles, gloves, fire shirt, pants, head lamp, and Nomex jump suit. During fire season a backpack pump will be carried. They are responsible for prevention patrols parkwide on an as needed basis.

Battlefield rangers form the backbone of the park's wildfire suppression crew. In suppression activities they may serve as Incident Commander on Class A and B fires unless relieved by the Chief Ranger, Supervisory Ranger or FCO.

B. Dispatch

The ranger division secretary will serve as Incident Dispatcher during regular office hours. At other times information desk personnel may be designated dispatchers. Should this occur, all fire traffic messages take precedence over visitor service functions.

The ranger division secretary will be called upon to provide after hours fire dispatch if needed. The maintenance division secretary or another person familiar with radio operations will be called upon for dispatcher duty if the ranger division secretary is not available.

The Incident Dispatcher will remain on duty until released by the Incident Commander and a radio log will be kept on all fires.

C. Presuppression

1. Cooperative Agreements, etc.

The park maintains Memorandums ofUnderstanding with the Virginia Department of Forestry and Chancellor Volunteer Fire Department to establish procedures for mutual cooperation and response to wildfires that threaten the park and area resources.

Additional agreements will be sought with all other fire companies with jurisdiction within the park.

2. Hazard Reduction

The park will comply with the state burning laws which prohibit open air fires between March 1 and May 15. At all other times open air fires will be prohibited within the park with the exception of burning activities deemed necessary for the good managment of the park. Monthly fire inspections are made of all park structures which may present a hazard to surrounding woodlands if they were to catch on fire.

Prescribed burning may be used as a method of fuel reduction on areas that were historically open but are not currently in the park's farm program.

3. Detection

Frequent patrols of all park roads and adjoining state roads are made by park rangers to detect any wildfires. The radio traffic of the local fire departments is monitored by the park to gather information on any wildland fires that may threaten the park or those that may require ranger assistance.

4. Supplies and Equipment

The park maintains a supply of equipment large enough to handle the third worst year of wildfire occurances within and near the park. The FCO is responsible for maintaining a cache of hand tools at Fredericksburg Visitor Center, Chancellorsville Fire House, Jackson Shrine, and the Spotsylvania maintenance yard. Minimum equipment at each area shall include:

Item	Each area needs				
	~~FVC~~ Lee Dr	CFH	JS	SPOT	WILD.
Backpack pumps	10	10	2	2	2
Shovels	5	5	1	1	1
Fire rakes	10	10	1	1	1
McClouds	5	5	2	2	2
Pulaski	5	5	2	2	2
Brush axe	4	4	2	2	2
Chain saws	1	1	0	0	0
Fires weather belt kit	1	1	0	0	0
Drip torch	0	1	0	0	0
Fire shirts	10	10	2	2	2
Hard hats	10	10	2	2	2
Goggles	10	10	2	2	2
Head lamps	10	10	2	2	2
Gloves	10	10	2	2	2
Canteens	10	10	2	2	2
Fire packs (complete)	0	3	0	0	0

5. Qualification/Training

The park's goal is to have at least 10 employees qualified as "firefighters" under the National Interagency Fire Qualification System. In addition, all employees who assist in fire suppres-

sion activities must complete the Service's 8-hour Incidental Firefighter Training program. These incidental firefighters must be designated by the Superintendent. They may be used for initial attack if they come upon a fire, but they can not be dispatched to a fire by park management or remain on a fire scene once relieved by the park's qualified firefighter team. Only red-carded employees may be dispatched to a fire.

Ranger division personnel will receive more specialized training with at least one member of the staff qualifying as a crew boss or above.

6. National Fire Danger Rating System

The park uses the NFDRS as the basis for all of its wildfire programs. The park's initial attack capability is based upon the NFDRS burning index. The park must utilize ONPS to fund activities up to a BI of 28. Beyond a BI value of 29, which reflects the worst 10% of historical fire conditions, special fiscal accounts may be utilized. These emergency presuppression funds (PWE-343) will be obtained by the Chief Ranger via the Regional Fire Coordinator. During the 2 fire seasons the park's BI will be calculated from data collected at the fire weather station located on Chancellorsville Battlefield.

7. Step-Up Plan

The park's step-up plan specifies manning class levels based upon the Burning Index. Each manning class level will have a corresponding set of actions which the park will initiate to meet potential fire problems. Manning Class I -III level actions are funded by the park, while actions taken at the IV and V manning class levels are supplemented with PWE-343 funds.

The manning class schedule for Fredericksburg and Spotsylvania NMP is:

MC	/	BI
I	/	0-6
II	/	7-13
III	/	14-28
IV	/	29-33
V	/	34+

Activities which will take place in these manning classes are:

MC I - No activity necessary.

MC II - Equipment and supplies serviced and prepared for use.

MC III - Park is totally prepared to respond to a fire. Location of suppression resources are known to all relevant personnel. Patrol rangers have fire tools and personal protection gear immediately available in patrol vehicles or at their work site.

MC IV - All activities in MC III are continued. Increased prevention and detection patrols are conducted. A minimum of 2 red-carded firefighters are on duty during the burning period. Longer hours of coverage are initiated for certain key positions. Approval for expenditure of PWE-343 funds is obtained. Cooperatives are notified.

MC V - All activities in MC IV are continued. A minimum of 4 red-carded firefighters are on duty during the burning period. Restrictions and closures of park areas may be deemed necessary.

VI. SUPPRESSION

A. Initial Attack

The park's policy is to suppress all fires not classified as prescribed fires. The park's red-carded personnel will respond to all wildfires that occur within park boundaries and to those fires that are identified in the Memorandums of Understanding with the Virginia Department of Forestry (Appendix A) and the Chancellor Volunteer Fire Department (Appendix B). The first red-card qualified person on the fire scene will serve as Incident Commander unless relieved by a higher qualified person.

B. Control

The park will attempt to use suppression methods that have a minimal impact on natural and cultural resources. Hand lines and wet lines will be used in most fire suppression activities. Suppression activities will limit the use of fire plows only to those instances where life or extensive

property damage may occur. Only the Incident Commander (crew boss qualified or above) with the approval of the Chief Ranger and/or the Superintendent may make the decision to use a fire plow in fire control activities.

In such instances where a fire plow is determined necessary, the use of the plow will be documented on a 10-343 with accompanying maps, etc. as to it's exact location, depth, etc. this information will be placed in the park's permanent files. When used, plows will be limited to the shallowest cut possible and back filling of the plowed line will be done as soon as possible. Plows will not be used in close proximity of known trenches or other historic features.

An active public relations program, as well as Memorandums of Understanding, will be used to educate those agencies which may respond to wildfires within the park as to the reasons the park employs these methods to control wilfires.

C. Containment/Out

The Incident Commander will declare the fire out only after a hand line or wet line has been established around the entire fire perimeter and all mop up activities have been completed.

D. Rehabilitation

All suppression impacts will be minimized by careful rehabilitation. Rehabilitation actions will include obliteration of firelines, flush cutting of stumps, and removal of cut logs and brush piles in visitor use areas. In some cases reseeding of burned areas will be initiated.

E. Escape Fire Situation Analysis

The fuels, weather, and topography found in Fredericksburg and Spotsylvania are not conducive to "escape fires." Should a wildfire defy all local containment efforts, the park will request assistance from fire management overhead teams and conduct an Escape Fire Situation Analysis. Forms and directions for the analysis can be found in NPS-18, chapter 11, exhibit 4, pages 1-5. Assistance can also be obtained by calling the Regional Fire Control Officer at (215) 597-5372.

VII. PRESCRIBED FIRE

A. Operational Procedures

Prescribed fire may be used at in resource management activities. Primarily, this will include the perpetuation of the historic scene and maintenance of open fields. Because of the potential for long term resource impact, life and property hazard, and public sensitivity, use of prescribed fire will be limited to those programs specified in the park's resource management plan and will be conducted in accordance with NPS-18.

VIII. REPORTING/REPORTS/REVIEW

B. Reporting

The Regional Office will be notified immediately by telephone after discovery of a fire which will:

1. Not be controlled during first burning period.
2. Burn onto a neighboring jurisdiction.
3. Significantly affect park operations, natural resources, or facilities.
4. Likely result in a request for outside assistance.

All necessary data will be recorded on the Regional Office form, "Telephone Report of Serious Wildland Fire" (appendix C) and transmittd to Region at (215) 597-5372.

C. Reports

The Chief Ranger is responsible for all records concerning fires. Report writing for each fire, as well as any incident reports, will be completed by the Incident Commander. All wildfires affecting the park are to be reported on Form DI-1202 and submitted to the Regional Office immediately after the incident. All records concerning past fires are kept by the FCO.

D. Reviews

The park will conduct reviews of all Class C and larger fires and of some Class A and B fires. Guidelines for these reviews are found in NPS-18, chapter 15.

W. GARNER
ate Forester

RECEIVED
NOV 2 8 1986
FREDERICKSBURG AND
SPOTSYLVANIA NMP

COMMONWEALTH of VIRGINIA

DEPARTMENT OF FORESTRY

Alderman & McCormick Roads
Box 3758, Charlottesville, Virginia 22903
(804) 977-6555

ADMINISTRATION
Agreements

November 24, 1986

Mr. James R. Zinck
National Park Service
Fredericksburg & Spotsylvania
National Military Park
P. O. Box 679
Fredericksburg, Virginia 22404

Dear Mr. Zinck:

Attached is a copy of the new cooperative agreement agreed upon and signed by both agencies.

I shall send a copy of the agreement to Regional Forester William Saunders at Tappahannock.

Our agencies have enjoyed a good working relationship over the years. This agreement should insure a continuation of this relationship.

Sincerely,

John N. Graff

John N. Graff, Chief
Fire Management

cc: W. L. Saunders

Attachment
/al

MEMORANDUM OF UNDERSTANDING

Agreement No. MU-4370-6-0003

between

U.S. Department of the Interior
National Park Service
Fredericksburg and Spotsylvania
National Military Park

Commonwealth of Virginia
Spotsylvania County
Chancellor Volunteer Fire Co.

The purpose of this Memorandum of Understanding is for cooperation in structural and wildland fire protection and suppression, made and entered into this 25th day of February, 1986, by and between the National Park Service, U.S. Department of the Interior, hereinafter referred to as the NPS, and the Chancellor Volunteer Fire Department, hereinafter referred to as the CVFD.

Witnesseth:

WHEREAS, a Congressional Act (44 Stat. 1091) established Fredericksburg and Spotsylvania National Military Park on February 14, 1927, and Executive Order (#6166 and 6228) brought it under the jurisdiction of the National Park Service on June 10, 1933; and,

WHEREAS, the NPS is empowered by the Act of August 21, 1935 (49 Stat. 666) and the Act of August 31, 1969, and pursuant to the delegation of authority from the Secretary of the Interior, to cooperate with others to accomplish the activities of the NPS and the establishing act; and,

WHEREAS, the Chancellor Volunteer Fire Department has been created under the laws of the Commonwealth of Virginia to protect and prevent both structural and wildland fires; and,

WHEREAS, it is the mutual desire of the NPS and the CVFD to work in harmony for the common purpose of protection the structures and wildlands within the Fredericksburg and Spotsylvania National Military Park from the ravages of uncontrolled fire in the interest of the citizens of Virginia and the United States; and,

WHEREAS, this Understanding is designed to set forth in specific manner for cooperative management which will be equally beneficial to both parties; and,

NOW THEREFORE, for and in consideration of the mutual covenants herein contained and intending to be legally bound thereby, each of the parties does covenant and agree with the other as follows; to wit;

I. The National Park Service agrees:

A. To cooperate with the CVFD on the enforcement of National Fire Protection Association standards in NPS structures and Virginia forest fire laws within the Fredericksburg and Spotsylvania National Military Park.

B. To make available on request of the SERVICE in fire emergencies such State improvements, facilities, equipment, and personnel as would normally be used in fire control work, provided that they are not needed by the STATE at that time for fire suppression.

C. To provide the SERVICE with fire reports and copies of all vital correspondence directly relating to this memorandum.

D. The fire plow and other equipment which can be used to expose mineral soil will be used judiciously, and at the discretion of the STATE in the absence of a SERVICE representative, when the STATE determines that failure to use the plow would jeopardize life or cause extensive property damage. Whenever possible, however, the SERVICE will be contacted prior to the use of the fire plow.

E. Under no circumstances will the plow or any other equipment be used on any known historic resources, i.e., trenches, gun pits, graves, building foundations, etc.

F. Nothing in this Understanding shall be construed as obligating the SERVICE for the expenditure of funds.

G. Nothing herein contained shall be construed as limiting or affecting in any way the authority of the SERVICE in connection with the proper administration and protection of the National Park areas, in accordance with the purpose for which the lands contained therein were acquired.

II. The SERVICE agrees:

A. To cooperate with the STATE on the enforcement of State forest fire laws within the National Park area and the cooperative protection zone.

B. To make available in fire emergencies at the request of the STATE, such Service improvements, facilities, equipment, and personnel as would normally be used to control fires, provided they are not needed at that time for fire suppression by the SERVICE.

C. To provide the STATE with reports and copies of all vital correspondence directly related to this Memorandum.

D. Nothing in this Understanding shall be construed as obligating the STATE for the expenditure of funds.

E. Nothing in this Understanding shall be construed as abrogating the responsibility of the STATE to provide protection for forest land within STATE jurisdiction.

III. The SERVICE and the STATE mutually agree:

A. To cooperate in the prevention and suppression of forest fires in the National Park and the cooperative protection zone as defined by the maps attached to this Understanding and entitled Exhibit A.

B. To make available to the CVFD in fire emergencies that occur within or near the national park such NPS improvements as hydrants, water, facilities, roads, and personnel.

C. To respond to all wildland fires within the national park.

D. To respond to wildland fires near the national park with equipment and personnel or upon the request of the CVFD or in such instances when the CVFD is unavailable, provided NPS equipment and personnel are available.

E. To make available to the CVFD all fire weather data collected and analyzed by the NPS during the two fire seasons.

F. To make available to the CVFD personnel maps, plans, diagrams, buildings, etc. for the purpose of pre-planning structural fire plans for NPS buildings and for on-site training sessions.

G. To provide the CVFD with reports and copies of all vital correspondence directly related to this Memorandum.

H. Nothing in this Understanding shall be construed as obligating the NPS for the expenditure of funds.

I. Nothing in this Understanding shall be construed as limiting or affecting in any way the authority of the NPS in connection with the proper administration and protection of the national park areas, in accordance with the purpose for which the lands and structures contained therein were acquired.

II. The Chancellor Volunteer Fire Department agrees:

A. To respond to all structural fires within the Fredericksburg and Spotsylvania National Military Park with such equipment, personnel, and actions as would normally be used to control fires.

B. To respond to wildland fires in the national park with equipment and personnel upon the request of the NPS or in such instances when the NPS is unavailable, provided CVFD equipment and personnel is not needed at that time for fire suppression at another location within the CVFD jurisdiction.

C. The use of a fire plow, in the absence of an NPS representative, will be under the direction of a Virginia Division of Forestry representative when the Virginia Division of Forestry determines that failure to use the plow would jeopardize life or cause extensive property damage. Whenever possible, however, the NPS will be contacted prior to the use of a fire plow.

D. To provide the NPS with fire reports and copies of all vital correspondence directly relating to this Memorandum.

E. Nothing in this Understanding shall be construed as obligating the CVFD for the expenditure of funds.

L. Each agency will assume costs of their respective fire control actions. Under unusual circumstances where prolonged assistance greater than 24 hours may be necessary, reimbursement for equipment used, damaged, or lost will be made by the requesting agency subject to availability of funds and applicable laws.

M. Investigation of the fire will be conducted by the STATE when the fire originates on private land and by the SERVICE when the fire originates on National Park land. The investigating agency shall be responsible for the prosecution of those responsible under the appropriate State or Federal laws except the SERVICE will initiate action in Federal courts for the enforcement of Federal laws.

N. Each party to this Understanding waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of this Understanding.

IV. No member of, or delegate to, Congress or Resident Commissioner shall be admitted to any share or part of this Understanding if made with a corporation or company for its general benefit.

V. The cooperators will comply with Executive Order No. 11246 of September 24, 1965, as amended, and will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

VI. This Understanding supersedes and cancels all previous fire control agreements and memoranda. This Understanding will expire on the 1st day of January, 1992, and may be renewed for additional five-year periods upon mutual concurrence between the SERVICE and the STATE. This Understanding may also be terminated by either party upon 30 days' written notice to the other party.

VII. Amendments to this Understanding may be proposed by either party and shall become effective upon approval by both parties.

ATTEST:

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF FORESTRY

By: _____
STATE FORESTER

ATTEST:

Barbara J. Krick

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
FREDERICKSBURG AND SPOTSYLVANIA
NATIONAL MILITARY PARK

By: James R. Zinck
JAMES R. ZINCK, SUPERINTENDENT

A44

February 25, 1986

Chief Robert Padgett
Chancellor Volunteer Fire Company
Fredericksburg, Va. 22401

Dear Chief Padgett:

I have enclosed for your records a copy of the signed Memorandum of Understanding between the Chancellor Volunteer Fire Company and the park.

We at the park look upon the signing of this agreement as the first step in expanding cooperative efforts in all aspects of fire fighting and through it improving the ability of both parties to handle emergencies in the park and the county. I feel strongly that the efforts put forth by both you and the park in establishing this agreement will result in a working relationship between your company and the park that will reap benefits for years to come.

It is with great satisfaction that I am able to sign this agreement on behalf of the National Park Service and return it to you, officially inaugurating a new era of cooperation between the park and Spotsylvania County.

Sincerely,

James R. Zinck
Superintendent

Enclosure

MKJ:bjk:2/25/86

MEMORANDUM OF UNDERSTANDING

Agreement No. MU-4370-7-0005

between

U.S. Department of the Interior
National Park Service
Fredericksburg and Spotsylvania
National Military Park

Commonwealth of Virginia
Department of Forestry

The purpose of this Memorandum of Understanding is for cooperation in forest fire protection, made and entered into this 1st day of January, 1987, by and between the National Park Service, U.S. Department of the Interior, hereinafter referred to as the SERVICE, and the Commonwealth of Virginia, Department of Forestry, hereinafter referred to as the STATE.

Witnesseth:

WHEREAS, a Congressional Act (44 Stat. 1091) established Fredericksburg and Spotsylvania National Military Park on February 14, 1927, and Executive Order (#6166 and 6228) brought it under the jurisdiction of the National Park Service on June 10, 1933; and,

WHEREAS, the SERVICE is empowered by the Act of August 21, 1935 (49 Stat. 666) and the Act of August 31, 1969, and pursuant to the delegation of authority from the Secretary of the Interior to cooperate with others to accomplish the activities of the SERVICE and the establishing act; and,

WHEREAS, the Department of Forestry has been created under the laws of the Commonwealth of Virginia to protect and perpetuate the forest resources of Virginia; and,

WHEREAS, it is the mutual desire of the SERVICE and the STATE to work in harmony for the common purpose of protecting from the ravages of uncontrolled wildfires the forest resources within the vicinity of the Fredericksburg and Spotsylvania National Military Park in the interest of the citizens of Virginia and the United States; and,

WHEREAS, this Understanding is designed to set forth in specific manner for cooperative management which will be equally beneficial to both parties; and,

NOW THEREFORE, for and in consideration of the mutual covenants herein contained and intending to be legally bound thereby, each of the parties does covenant and agree with the other as follows; to wit;

I. The STATE agrees:

A. To cooperate with the SERVICE in the enforcement of Federal and State forest fire laws within SERVICE land.

B. To promote a united approach by all interested parties to the problems related to the prevention of forest fires within and adjacent to the National Park area.

C. To cooperate in the formulation and application of practical plans and programs for the prevention and suppression of forest fires.

D. On National Park land, the use of the fire plow and other similar motorized equipment that can be used to expose mineral soil will be used only in the most extreme circumstances and when it is determined that failure to use the above equipment would jeopardize life or cause extensive property damage.

E. To keep each other informed of fire weather information and the related prevention and preparedness requirements. When either party decides that emergency closure may be required, the other party will be informed as to the recommended time and condition of the closure to make possible complete coordinating of action to be taken.

F. To furnish promptly to each other the necessary information for fire statistical report purposes.

G. To meet jointly when necessary, for discussion of matters relating to the application of this Understanding, and to provide for other meetings at administrative levels for discussion of matters relevant to the prevention and suppression of structural and wildland fires.

H. Annually in January the SERVICE and the STATE will meet to:

1. Exchange information necessary for the coordination of prevention, presuppression, and suppression plans, including such items as detection, communications, reports, training, recruitment, equipment, etc.

2. Submit to their superiors recommendations for any needed revisions or additions to this Understanding.

I. Either party receiving the initial report of fire shall take immediate initial suppression action. The other party will be notified promptly of the fire and action taken. If the fire is on private land, the STATE will take over responsibility for the fire upon arrival. If the fire is on National Park land, the SERVICE will take over responsibility upon arrival.

J. Either party may initiate suppression action of fires endangering forest land within the area described in Exhibit A.

K. In the event of a fire burning simultaneously on lands within the area of responsibility of both parties, it is mutually agreed that the entire suppression action shall be directed by a single incident commander who will be designated by the senior responsible representative of the party making the initial attack. If it is the mutual desire of the two representatives that the party reinforcing the other should direct the suppression action, the agreement to do so shall be in writing. As a general rule the incident commander on such fires will be from the agency which has the biggest acreage threatened by the fire at the time of the decision.

B. Nothing in this understanding shall be construed as abrogating the responsibility of the CVFD to provide protection for structures and wildlands within CVFD jurisdiction.

III. The National Park Service and the Chancellor Volunteer Fire Department mutually agree:

A. To cooperate in the prevention and suppression of structural fires in the national park and wildland fires in or near the park.

B. To promote a united approach by all interested parties to the problems related to the prevention of structural fires in the park and wildland fires within and adjacent to the national park area.

C. To cooperate in the formulation and application of practical plans and programs for the prevention and suppression of structural and wildland fires.

D. Either party receiving the initial report of a structural fire within the park shall take immediate initial suppression action. The other party will be notified promptly of the fire and action taken. The CVFD will lead suppression efforts on structural fires, while the responsibility for such actions will be the NPS's.

E. Either party may initiate suppression action on wildland fires within or near the national park. The other party will be notified promptly of the fire and action taken. If the fire is on private land, the CVFD will take over responsibility for the fire upon arrival. If the fire is on national park land, the NPS will take over responsibility upon arrival.

F. On national park land, the use of a fire plow and other similar motorized equipment used to expose mineral soil will be used only in the most extreme circumstances and when it is determined that failure to use the above equipment would jeopardize life or cause extensive property damage.

G. Each party will maintain its own personnel and equipment, and each will be responsible for all costs for emergency or routine assistance it incurs as a result of this agreement.

H. To furnish promptly to each other the necessary information for fire statistical report purposes.

I. Investigation of fires will be conducted by the local authorities when a fire originates on private land, and by the NPS when the fire originates on national park land. The investigating agency shall be responsible for the prosecution of those responsible under the appropriate state or federal laws.

J. To meet jointly when necessary, for discussion of matters relating to the application of this Understanding, and to provide for other meetings at administrative levels for discussion of matters relevant to the prevention and suppression of structural and wildland fires.

K. To meet annually in January to:

1. Exchange information necessary for the coordination of prevention, presuppression, and suppression plans, including such items as detection, communications, reports, training, recruitment, equipment, etc.

2. Submit to their superiors recommendations for any needed revisions or additions to this Understanding.

L. Each party to this Understanding waives all claims against the other party for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of this Understanding.

IV. Amendments to this Understanding may be proposed by either party and shall become effective upon approval by both parties.

V. This Understanding supersedes and cancels all previous fire control agreements and memoranda. This Understanding will expire on the last day of December, 1990, and may be renewed for additional five-year periods upon mutual concurrence between the National Park Service and the Chancellor Volunteer Fire Department. This Understanding may also be terminated by either party upon 60 days' written notice to the other party.

VI. During the performance of this agreement, the participants agree to abide by the terms of Executive Order 11246 on non-discrimination and will not discriminate against any person because of race, color, religion, sex, or national origin. The participants will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, sex, or national origin.

VII. No member or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

ATTEST:

Commonwealth of Virginia
Spotsylvania County
Chancellor Volunteer Fire Department

_____

By: Robert G. Padgett
Chief, Chancellor Volunteer Fire Dept.

ATTEST:

U.S. Department of the Interior
National Park Service
Fredericksburg and Spotsylvania
National Military Park

Barbara J. Krick

By: James R. Zinck
James R. Zinck, Superintendent

United States Department of the Interior

NATIONAL PARK SERVICE

FREDERICKSBURG AND SPOTSYLVANIA
NATIONAL MILITARY PARK
P.O. BOX 679
FREDERICKSBURG, VIRGINIA 22401

IN REPLY REFER TO:

TELEPHONE REPORT OF SERIOUS WILDLAND FIRES

1. NPS AREA _____
2. LOCATION OF FIRE _____
3. HOW FIRE STARTED _____
4. WHEN FIRE STARTED _____
5. WHO IS IN CHARGE (AGENCY & FIRE BOSS) _____

   _____
6. WHAT AGENCIES ARE COOPERATING _____
7. NUMBER OF MEN AND EQUIPMENT ON FIRE _____

   _____
8. SIZE OF FIRE _____
9. ESTIMATED TIME OF CONTROL _____
10. WEATHER FORECAST _____
11. TOPOGRAPHY, FUELS, ACCESSIBILITY, ETC. _____

    _____

REPORT RECEIVED FROM:

1. NAME _____
2. DATE _____
3. TIME _____
4. BY _____

ENVIRONMENTAL ASSESSMENT

HAZEL GROVE SCENE RESTORATION, 1994

FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK

Submitted by: _____ _____
John H. Perez — Date
Natural Resource Management Specialist

Reviewed by: _____ _____
Michael K. Johnson — Date
Chief Ranger

Approved by: _____ _____
George Church — Date

Acting Superintendent

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I. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

A. Background Data

The purpose of this assessment is to allow for the removal of primary and secondary growth forest from a 2.75 acre area known as Hazel Grove in Chancellorsville Battlefield. In 1863, Hazel Grove served as one of the Confederate Army's primary artillery positions during the Battle of Chancellorsville. This knoll is now covered with a dense stand of Virginia pine, loblolly pine, red cedar, and a few hardwoods. The understory consists of young oak and maple, greenbriar, blackberry, blueberry, poison ivy, winged sumac, sweetgum, and American holly.

It should be noted that this proposed action includes a slight deviation from the park's approved General Management Plan dated August 28, 1986 (see map, Appendix 3). The General Management Plan proposes to maintain the area as a forested buffer from Wilderness Camping Resorts. The GMP map depicts a rough estimation of forested scene restoration on tract 03-211, a disturbed area purchased in the 1970s and allowed to revegetate as a natural buffer strip. The narrative within the GMP references a 9 acre area for reforestation when the tract is actually 10.70 acres (General Management Plan pg. 65). This scene restoration project will reduce the current buffer by 2.75 acres, resulting in a one acre loss of the 9 acre buffer recommended in the GMP. A negative result of this proposed action may be an increase of visual and audible impacts from the neighboring vacation resort.

B. Proposed Action

It has been proposed that approximately 2.75 acres of forest vegetation be cleared from the knoll at Hazel Grove, behind the present location of the Confederate cannons west of Stuart Drive (Appendix 2). One hundred feet of vegetative buffer will be left along the park's boundary with Wilderness Camping Resorts. Repositioning the existing artillery pieces about 250 feet west of their current position to their more historically accurate locations will help to further educate visitors to the actual position of the Confederate Army and its resources during this battle.

C. Proposed Procedure

If this proposal is approved, trees and shrubs located on this knoll in a 2.75 acre area will be manually felled using chainsaws. The large timber will be delimbed, cut into eight foot lengths, and stacked at the roadside. Stumps will be ground to a depth not to exceed 4 inches. Saplings, brush, and limbs under six inches in diameter will be chipped and hauled away.

Much of the project area exhibits deep scares from earthmoving equipment used by the previous owners in the 1970s to provide fill dirt for Wilderness Camping Resort. Approximately 1.5 acres of organic soil (A horizon) was completely removed, resulting in little or no vegetative recovery. A 4-24 inch layer of fill/top soil (approx. 350 cubic yards) will be required to return much of the project area to the original grade. The restoration of the original grade is necessary to facilitate run-off and promote the establishment of healthy turf on the knoll. The entire area will be hydroseeded or covered with sod.

D. Alternatives

1. No Action - Although this alternative would provide maximum protection for natural resources, it does not accomplish the intent of this proposal. In order to restore the historic area to it's Civil War era landscape, it is necessary to clear vegetative growth from the knoll.

2. Reduce the clearcut area - This alternative would result in retaining most of the original buffer from Wilderness Camping Resorts. Approximately 1.5 acres of forest would be cleared back from the existing cannon positions, leaving an approximate 200 foot buffer along the park boundary (Appendix 2).

3. Clear the entire area to the park boundary - Although this alternative would accomplish the restoration of Hazel Grove to it's historic knoll feature, there would be noise pollution and visual distractions from activities at Wilderness Camping Resorts. From the top of the knoll you would easily be able to see the Resort's buildings, trailers, and other development that now exists next to the park (Appendix 2).

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. Non-living Components

1. Climate - The average summer temperature is 75°F with the average daily maximum being 87°F. The humidity is often very high. The highest recorded temperature in the area was in August 1953, at 106°F. The average winter temperature is 36°F with an average daily minimum of 23°F. The lowest temperature on record occurred in January 1957, at -16°F. Total average annual precipitation is 45.5 inches with 54% of this falling from April to September. The average seasonal snowfall is 18 inches. Prevailing winds are from the south with the highest average windspeed occurring in the spring at 9 mph.

2. Land

a. Soils - According to the Soil Survey of Spotsylvania County, the soil type of this vista is Catharpin. This consists of deep, well drained soils with a typical yellowish brown silt loam surface layer, and a mostly red clay subsoil. The organic matter content of this strongly acidic soil type is low, as is the natural fertility. Because the surface layer of this soil was scraped off using heavy machinery by Wilderness Camping Resorts for use as fill dirt, the red clay subsoil is what is now visible at the surface over most of the area. Originally, this soil would have been well suited to a mixture of grasses but, because of the current surface layer, topsoil will need to be brought in to allow grasses and other vegetation to grow. Or, as the Virginia Tech soil testing laboratory recommended, heavy applications of fertilizer and lime would be necessary to establish a new lawn (see Appendix 5).

b. Geology - Hazel Grove is a geologic feature known as a **Knoll**, defined as a small round hill with an aspect in all directions, and a slope ranging from 0 - 3 percent. The knoll drains into Lewis Run, a small tributary that feeds into the Ni River, which in turn eventually drains into the Chesapeake Bay. This area is not in an RPA (Resource

Protection Area), however it is located in an RMA (Resource Management Area), both as defined by the Chesapeake Bay Act (RPA maps, Appendix 4). In order to meet compliance with the Chesapeake Bay Act, a 25 foot vegetative buffer must be left bordering the cleared area. All possible alternatives will easily meet or exceed this requirement.

c. Land Use Suitability - Presently the tract is supporting a dense stand of loblolly and Virginia pines, red cedar, and a few hardwoods. This area is utilized by a variety of fauna, mostly birds and small mammals. After the knoll is cleared, the Confederate artillery will be moved to their original Civil War locations on the knoll for interpretive purposes. The grassy area will require routine maintenance by mowing after complete restoration.

3. Water - There is no surface water present in this stand. As stated previously, this knoll drains into the Ni River. In order to prevent the discharge of sediment into this tributary during the process of clearing this area, silt fencing will be installed and the area will be hydroseeded as soon as possible, following the clearing. Compliance with the Chesapeake Bay Act will be done as noted in section 2.b above.

B. Living Components

1. Vegetation - The overstory of this tract is dominated by loblolly and Virginia pine, with an occasional red cedar (Appendix 1). The understory consists of oak, maple, green briar, blackberry, blueberry, poison ivy, winged sumac, sweetgum and American holly. Table 1 (Appendix 1) denotes the present timber species, the total trees in each diameter class, and the overall species total. The area to be cleared is within 300 yards of a state listed rare species of milkweed, Asclepias rubra (red milkweed).

2. Wildlife - Many common species of birds that have been observed at Hazel Grove use the meadows at Wilderness Camping Resorts for foraging and the scrub growth of Hazel Grove for shelter and probable nesting. Small mammals and deer also use this dense, shrubby area for shelter and foraging. No state or federally listed threatened or endangered species are known to exist in the area to be cleared.

C. Ecological Interrelationships

Succession species in this area include hardwoods, such as oak, maple, and sweetgum, as well as Virginia pine (Appendix 1). After cutting, predominant species in the management area will include grasses. At the park's boundary, and in the buffer to be left, a few shrubs, such as blueberry and blackberry, and other herbaceous plants will remain. Blueberry and blackberry will provide browse for foraging mammals and birds. The cleared area will be regularly mowed to prevent hardwood intrusions.

D. Human Values

The Park hopes to gain a more accurate depiction of Hazel Grove as it was during the Civil War for the purpose of providing visitors a better understanding as to why this knoll was so important to the outcome of the Battle of Chancellorsville. By clearing the vegetative growth, the Confederate cannons will be able to be moved

to the positions they held during the battle. The occupancy of this knoll was extremely advantageous to the Confederate Army and ultimately influenced the outcome of the battle, considered by many to be the greatest Confederate victory of the war.

III. ANALYSIS OF PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

It has been proposed that the trees to be cleared would be felled manually using chainsaws and limbed on the site. All limbs and trees under six inches would be chipped and the stumps ground and back filled. Timber over six inches would be sawed into eight foot lengths, hauled to the roadside and stacked. The stacked logs would be removed within two days of the completion date. Topsoil and fill dirt will then be brought in and evenly distributed over the top of the knoll to restore the aspect of the knoll and to allow grassy vegetation to grow. The area will then be hydroseeded to abate erosion.

The park will prepare a detailed Scope-Of-Work document prior to accepting competitive bids from general contractors for completion of the scene restoration project.

1. Anticipated Impacts - If this procedure is closely followed and monitored, impacts on the area will be minimal. Slight mechanical damage and erosion may occur, due to using a tractor to haul the cut timber to the roadside. However, the damage caused by the men and chainsaws will be much less than that which would occur if tree cutters and skidders were to be used. The clearing would be closely monitored by Resource Management personnel to minimize any impact on, or damage to, unknown archeological resources. Vegetatively, the area will be changed from a planted young pine stand to a mowed field, with a few low shrubs. The impact to the fauna residing in this area would be a loss of habitat. However, there is a wooded area adjacent to Hazel Grove that would provide adequate habitat to the displaced animals. The impact this project may have on visitors touring the area during the clearing process will be a moderate noise distraction due to chainsaws and tractors used to cut and haul logs; however, this is a short term problem. It is anticipated that increased visual and noise distraction from Wilderness Camping Resorts will result from the reduction in the vegetative buffer.

2. Recommendations for Mitigation Measures - To help prevent impacts on this important archeological area only rubber tired vehicles will be allowed on the site. This measure will help prevent or reduce any possible erosion or destruction of natural and archeological resources on the site. The area will also be hydroseeded immediately after application of topsoil. Silt fencing will be installed around the perimeter for the same reason. Along the boundary of the park and Wilderness Camping Resorts at the buffer zone, a fence will be installed, and thorny shrubs and vines (i.e. Greenbriar, Blackberry, etc...) that already exist at the buffer will be allowed to grow up to discourage access from Wilderness Camping Resorts.

B. Alternatives

1. No Action - This alternative would eliminate all the impacts that could be caused by this project, however it would not accomplish the goal of restoring the historic scene as set forth by this proposal.

2. Reduce the clearcut area - This alternative would decrease the impacts of the project, while allowing the park to at least partially recreate the historic setting.

3. Clear the entire area to the park boundary - This alternative would increase the impacts the clearing of this tract would have, most notably long term impacts resulting from noise pollution from Wilderness Camping Resorts. Because of these severe impacts, this alternative is not considered viable.

IV. PERSONS AND AGENCIES CONSULTED

Ben Alexander, Planner, Spotsylvania County Government
DeNise Cooke, Natural Resource Management Specialist, Water Resources Division, Mid-Atlantic Region
Mike Greenfield, Supervisory Park Ranger, FRSP
Noel Harrison, Cultural Resource Management Specialist, FRSP
Chris Ludwig, Botanist, Virginia Natural Heritage Program
Frank O'Reilly, Acting Cultural Resource Management Specialist, FRSP
Virginia Tech Soil Testing Laboratory

V. PARTICIPATING STAFF

John Perez, Natural Resource Management Specialist, FRSP
Kimberly Nesci, Seasonal Park Ranger, Resource Management, FRSP

VI. SUMMARY

This proposal intends to clear a historical knoll in order to recreate the historic setting of Hazel Grove, an area of great importance to the outcome of the Battle of Chancellorsville. The impacts of this action could be visual and audible distractions from Wilderness Camping Resorts, as well as the loss of habitats to birds and small mammals. However, an important historic resource is to be gained by the completion of this project.

APPENDICES

Appendix A: Table 1, Species and Number of Trees in Hazel Grove

Appendix B: Maps of the Proposed Cutting Area for each Alternative.

Appendix C: General Management Plan Map of Historic Scene Restorations and Designated Wetlands, Chancellorsville Battlefield.

Appendix D: Wilderness Presidential Resort maps

Appendix E: Chesapeake Bay Act Resource Protection Area maps.

Appendix F: Soil Test Reports from the Virginia Tech Soil Testing Laboratory.

Appendix G: Section 106 Compliance

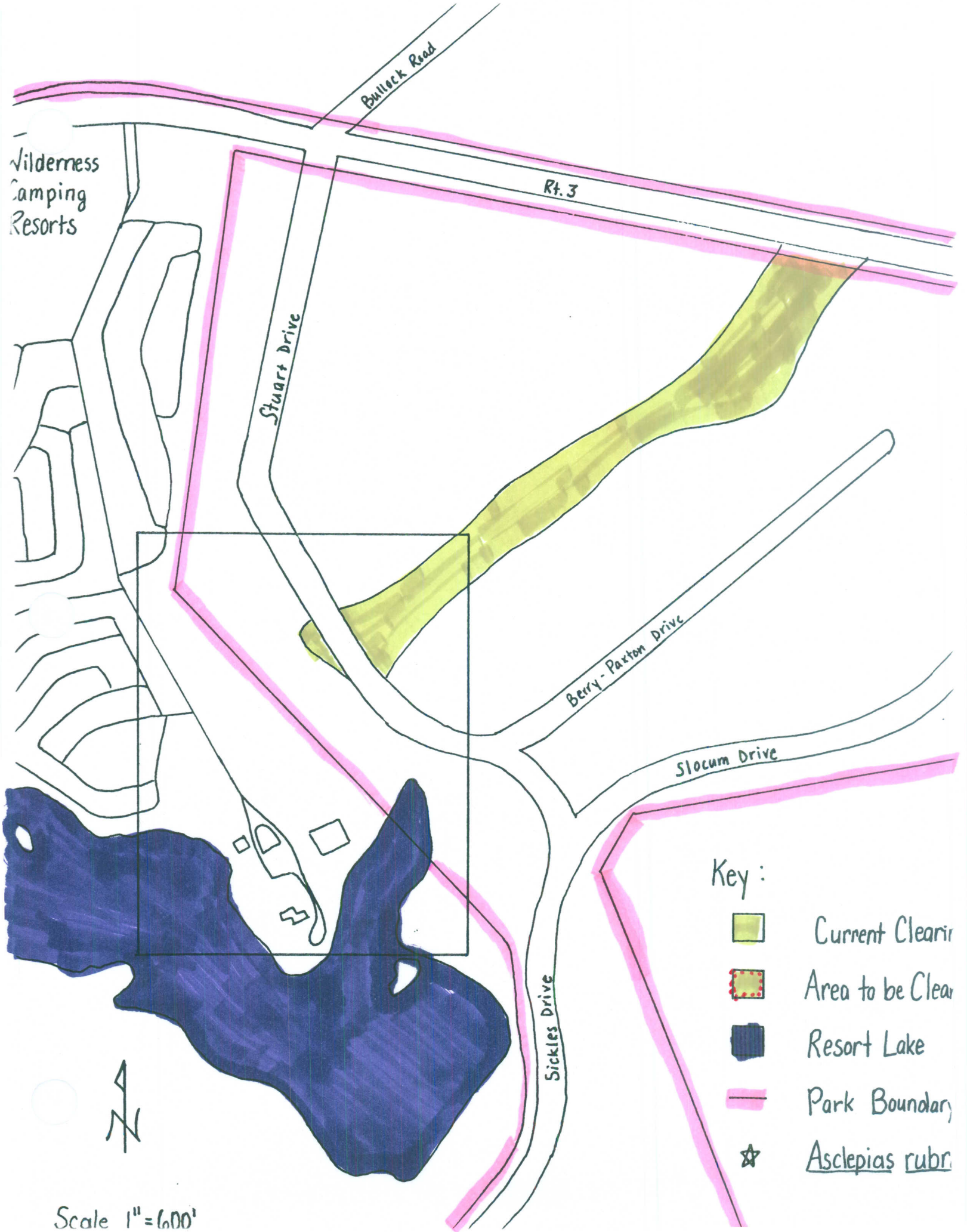
Appendix H: Decision Notice And Finding of No Significant Impact

Appendix A

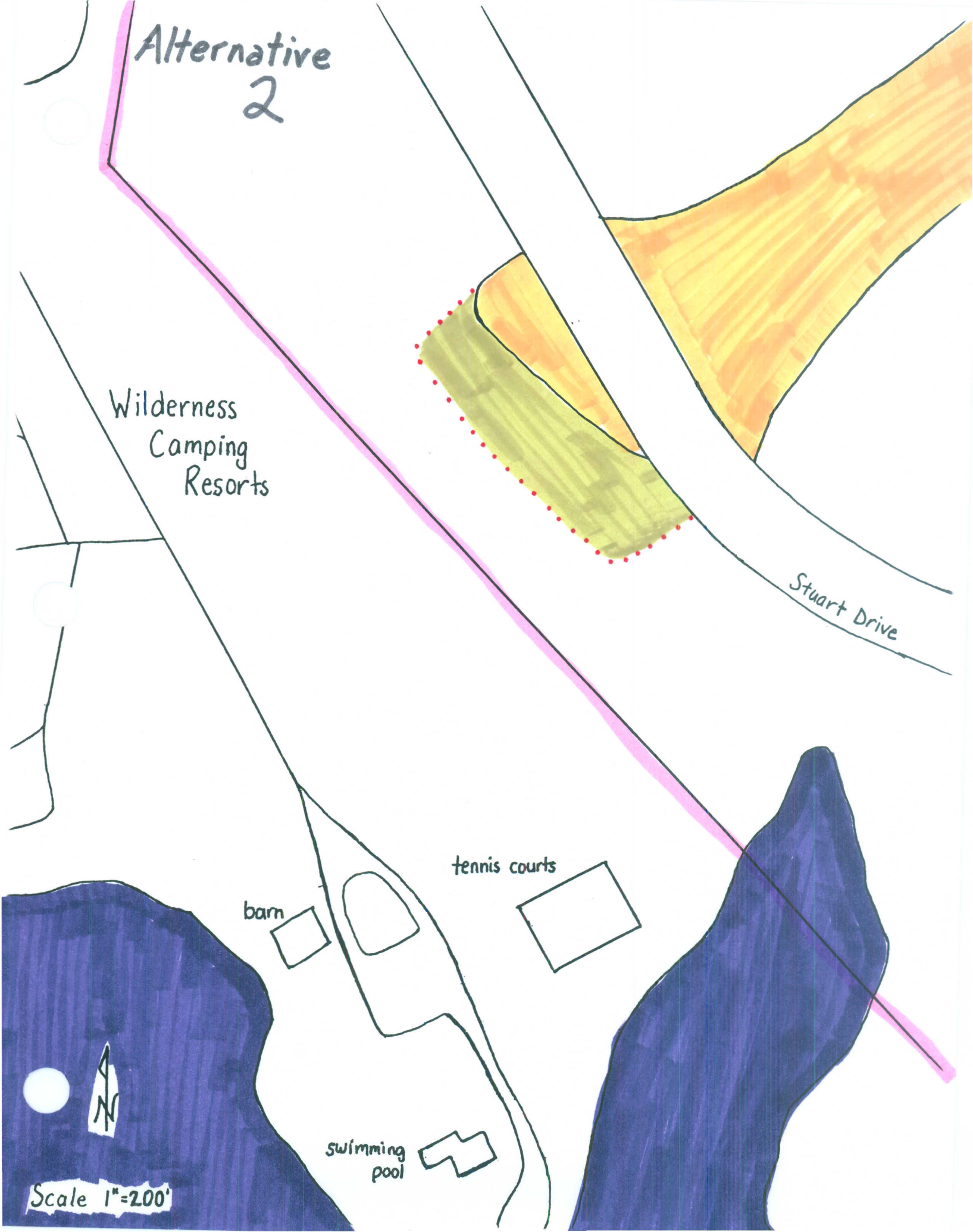
SPECIES AND NUMBERS OF TREES IN THE PROPOSED CLEARING AREA

Species	<6"	6-7"	>7"	TOTAL
Virginia pine	504	168	240	912
Cedar	336	0	0	336
Cherry	120	0	0	120
Red oak	72	0	48	120
Red maple	96	0	0	96
Loblolly	72	0	0	72
Sassafras	72	0	0	72
White oak	48	0	24	72
American holly	24	0	0	24
Black gum	24	0	0	24
Dogwood	24	0	0	24
Post oak	0	0	24	24
Southern red oak	0	0	24	24
Sweet gum	0	0	24	24

Appendix 2


Bullock Road
Rt. 3
Stuart Drive
Berry-Paxton Drive
Slocum Drive
Sickles Drive
Key :
Current Clearir
Area to be Clea
Resort Lake
Park Boundary
Asclepias rubr
Scale 1" = 600'


Proposed Action
Wilderness Camping Resorts
Stuart Drive
tennis courts
barn
swimming pool
Scale 1"=200'


Alternative 2
Wilderness Camping Resorts
Stuart Drive
tennis courts
barn
swimming pool
N
Scale 1"=200'


Alternative 3
Wilderness Camping Resorts
Stuart Drive
tennis courts
barn
swimming pool
N
Scale 1"=200'

Appendix 3

APPENDICES

Appendix 1: Table 1, Species and Number of Trees in Hazel Grove

Appendix 2: Maps of the proposed cutting area for each alternative.

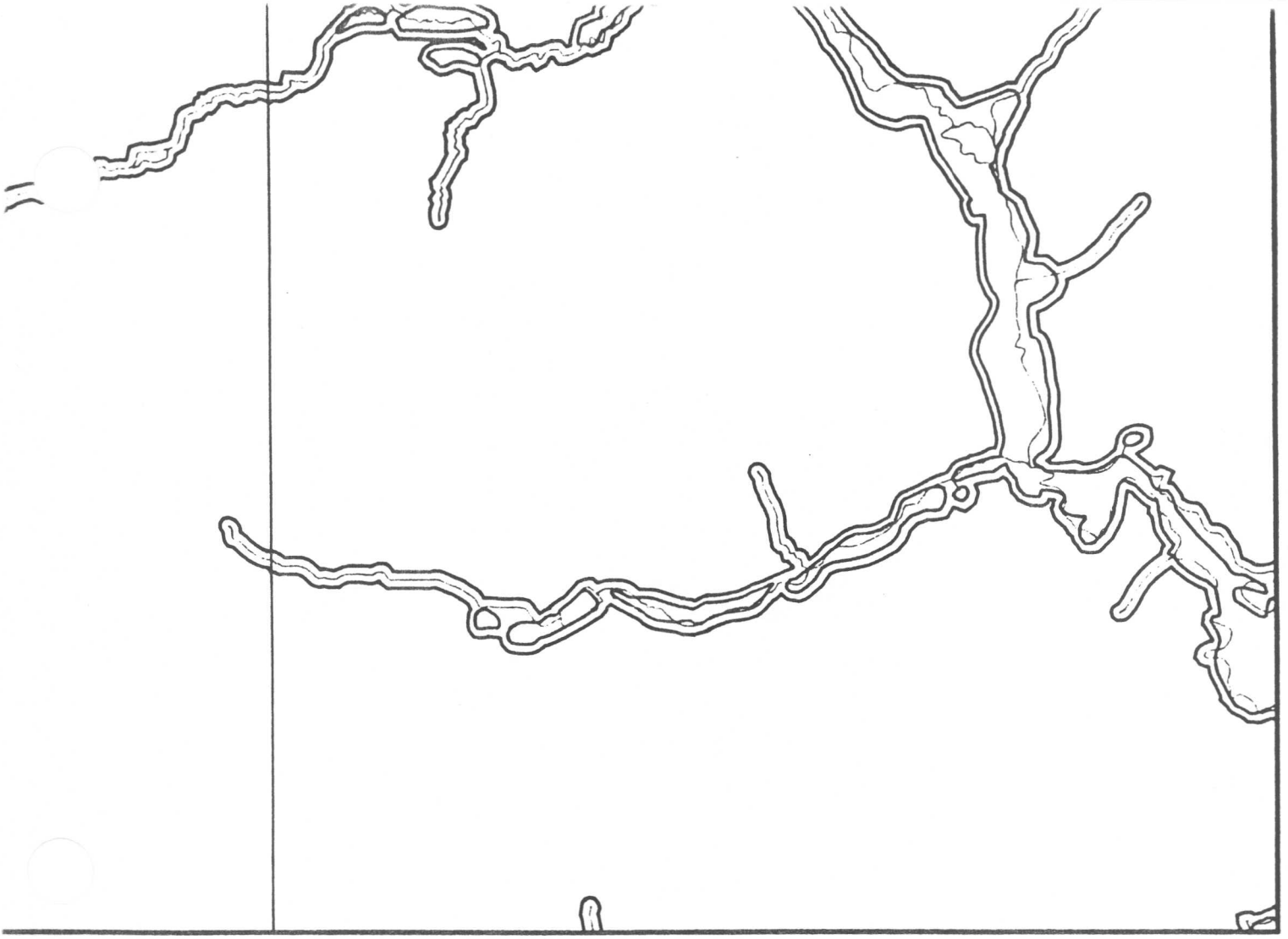
Appendix 3: General Management Plan map of Historic Scene Restorations and Designated Wetlands, Chancellorsville Battlefield.

Appendix 4: Chesapeake Bay Act Resource Protection Area maps.

Appendix 5: Soil test reports from the Virginia Tech soil testing laboratory.

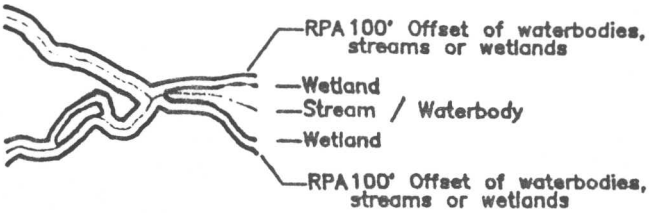
Appendix 6: Section 106 compliance

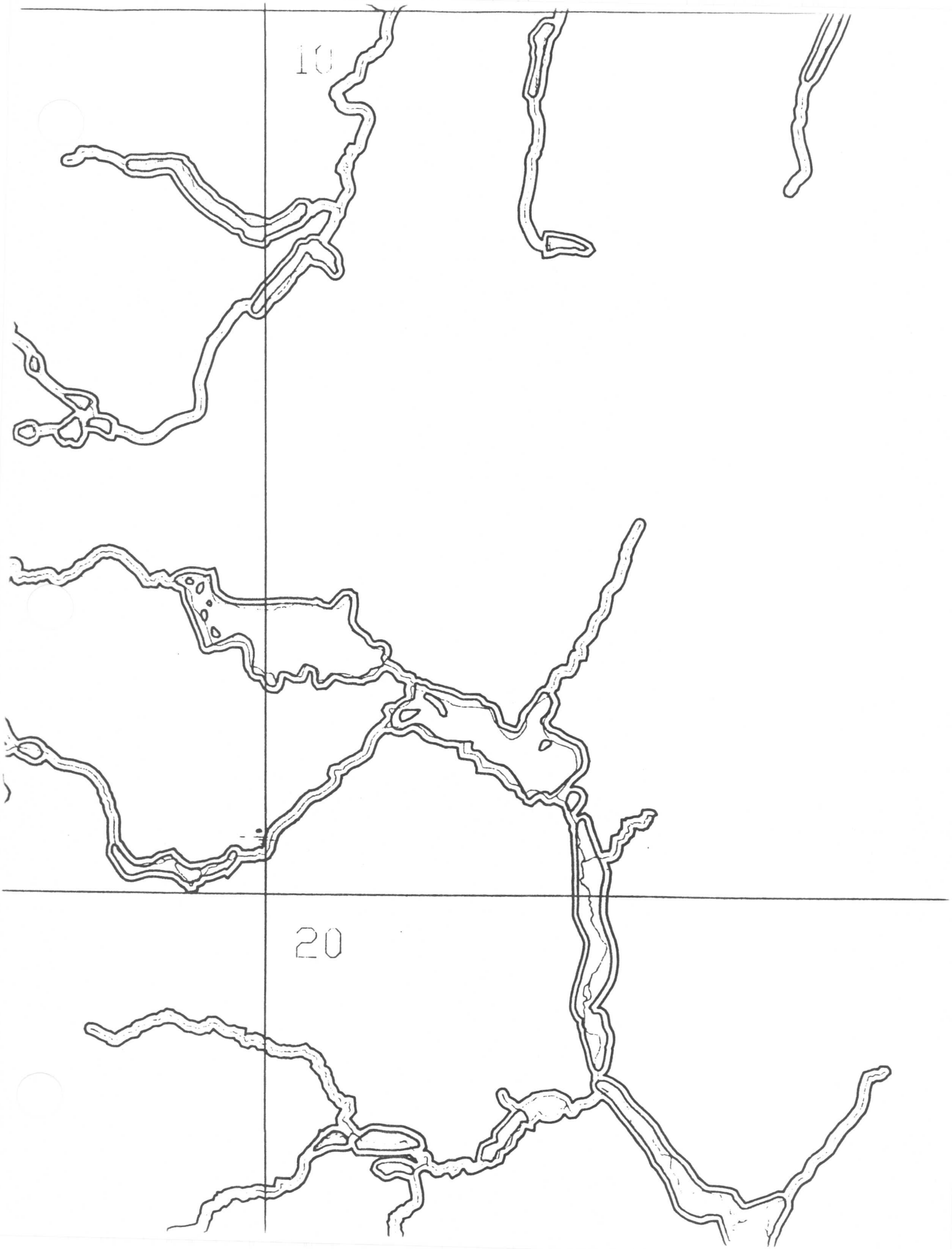
Appendix 7: Finding of No Significant Impact

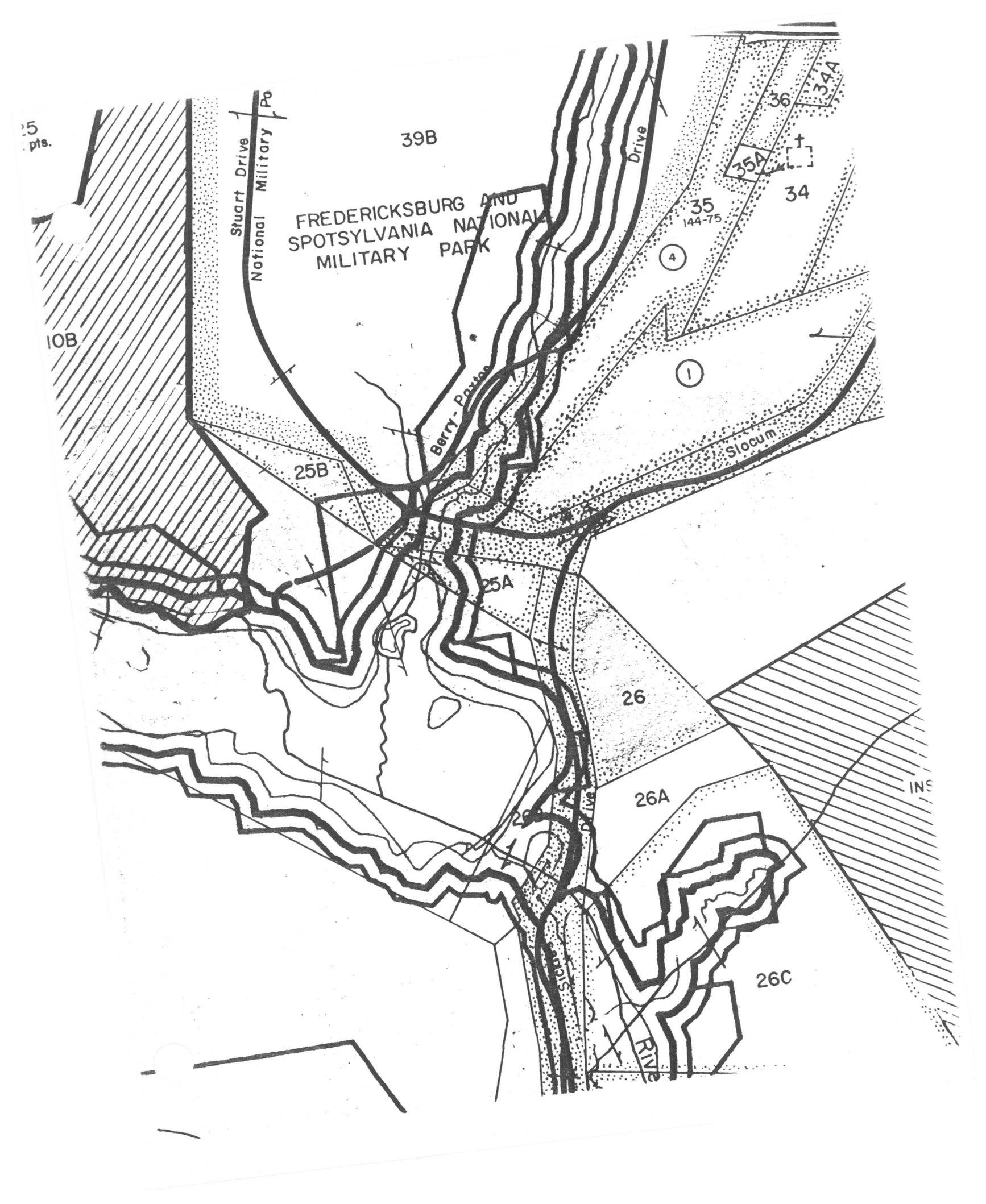


Chancellorsville Quad Overlay

LEGEND




10
20


FREDERICKSBURG AND
SPOTSYLVANIA NATIONAL
MILITARY PARK
Stuart Drive
National Military Pa
Berry-Paxton
Slocum
Drive
39B
36
34A
35A
34
35
144-75
10B
25B
25A
26
26A
26C
INS
Rive

Appendix 5

Virginia Cooperative Extension Service

Soil Test Report

Virginia Tech Soil Testing Laboratory
P.O. Box 10664
Blacksburg, VA 24062-0664

NOTES:
X 1 17

NATIONAL PARK SERVICE
120 CHATHAM LN
FREDERICKSBURG VA 22405

SAMPLE HISTORY

SAMPLE No.	NO. OF AC.	SOIL TYPE	SLOPE	SOIL PROD GROUP	LAST CROP		LAST CROPS FERTILIZATION, lb/A			LAST LIME APPLICATION	
					NAME	YIELD	N	P_2O_5	K_2O	MO. PREV.	T/A
00001		LOAMY					NONE APPLIED			---	

LAB TESTS

SOIL pH	P lb/A	K lb/A	Ca lb/A	Mg lb/A	OM %	SS ppm	NO_3-N ppm	Zn ppm	Mn ppm	Cu ppm	Fe ppm	B ppm
5.0	6 L	81 M-	648 L+	146 H-				1.1	5.2	0.3	16.8	0.2

*** FOREST TO BE CLEARED AND RETURNED TO GRASSY FIELD

CROP: NEW LAWN ESTAB. - BLUEGRASS, FESCUE
----

*201. FERTILIZER RECOMMENDATIONS: APPLY A 1-2-1 RATIO FERTILIZER (EXAMPLES OF GRADES TO USE ARE 5-10-5, 15-30-15, ETC.) USING THE RATE LISTED IN THE "2.5" LB. NITROGEN COLUMN IN TABLE 3 IN THE ENCLOSED NOTE ON LAWN FERTILIZATION. BE SURE TO INCORPORATE THE FERTILIZER INTO THE SOIL (ALONG WITH LIME, IF NEEDED) TO A DEPTH OF 4 TO 6 INCHES. AFTER THE TURF HAS BEEN ESTABLISHED (6 TO 8 WEEKS) FOLLOW ONE OF THE MAINTENANCE FERTILIZATION PROGRAMS DESCRIBED IN THE NOTE.

*611. LIME RECOMMENDATIONS: APPLY 145 POUNDS OF AGRICULTURAL LIMESTONE (GROUND OR PULVERIZED) PER 1000 SQUARE FEET. DISK OR ROTOTILL 6" DEEP INTO THE SOIL. IF IT IS NOT POSSIBLE TO INCORPORATE THE LIME, MAKE SEVERAL SMALL APPLICATIONS OF UP TO 50 LBS EACH, AT INTERVALS OF 1 TO 6 MONTHS, UNTIL THE FULL AMOUNT IS APPLIED.

FERTILIZER & LIMESTONE RECOMMENDATION

Virginia Cooperative Extension Service

Soil Test Report

Virginia Tech Soil Testing Laboratory
P.O. Box 10664
Blacksburg, VA 24062-0664

NOTES:
X 1 17

NATIONAL PARK SERVICE
120 CHATHAM LN
FREDERICKSBURG VA 22405

SAMPLE HISTORY

SAMPLE No.	NO. OF AC.	SOIL TYPE	SLOPE	SOIL PROD GROUP	LAST CROP		LAST CROPS FERTILIZATION, lb/A			LAST LIME APPLICATION	
					NAME	YIELD	N	P_2O_5	K_2O	MO. PREV.	T/A
00002		CLAYEY					NONE APPLIED			---	

LAB TESTS

SOIL pH	P lb/A	K lb/A	Ca lb/A	Mg lb/A	OM %	SS ppm	NO_3-N ppm	Zn ppm	Mn ppm	Cu ppm	Fe ppm	B ppm
5.0	1 L-	47 L	336 L	134 M+				0.5	1.5	0.2	13.9	0.2

*** FOREST TO BE CLEARED AND RETURNED TO GRASSY FIELD

CROP: NEW LAWN ESTAB. - BLUEGRASS, FESCUE
----

*201. FERTILIZER RECOMMENDATIONS: APPLY A 1-2-1 RATIO FERTILIZER (EXAMPLES OF GRADES TO USE ARE 5-10-5, 15-30-15, ETC.) USING THE RATE LISTED IN THE "2.5" LB. NITROGEN COLUMN IN TABLE 3 IN THE ENCLOSED NOTE ON LAWN FERTILIZATION. BE SURE TO INCORPORATE THE FERTILIZER INTO THE SOIL (ALONG WITH LIME, IF NEEDED) TO A DEPTH OF 4 TO 6 INCHES. AFTER THE TURF HAS BEEN ESTABLISHED (6 TO 8 WEEKS) FOLLOW ONE OF THE MAINTENANCE FERTILIZATION PROGRAMS DESCRIBED IN THE NOTE.

*611. LIME RECOMMENDATIONS: APPLY 170 POUNDS OF AGRICULTURAL LIMESTONE (GROUND OR PULVERIZED) PER 1000 SQUARE FEET. DISK OR ROTOTILL 6" DEEP INTO THE SOIL. IF IT IS NOT POSSIBLE TO INCORPORATE THE LIME, MAKE SEVERAL SMALL APPLICATIONS OF UP TO 50 LBS EACH, AT INTERVALS OF 1 TO 6 MONTHS, UNTIL THE FULL AMOUNT IS APPLIED.

FERTILIZER & LIMESTONE RECOMMENDATIO

TABLE 3.
THE AMOUNTS OF VARIOUS TYPES OF FERTILIZERS TO APPLY CERTAIN RATES OF NITROGEN PER 1000 SQUARE FEET

Fert. Analysis	Approximate Ratio	lbs. of nitrogen desired per 1000 sq. ft.			
		1	1.5	2.0*	2.5*
		lbs. fertilizer per 1000 sq. ft.			
5-10-5	1-2-1	20.0	30.0	40.0	50.0
5-10-10	1-2-2	20.0	30.0	40.0	50.0
6-2-0	3-1-0	16.6	25.0	33.0	42.0
10-10-10	1-1-1	10.0	15.0	20.0	25.0
12-4-8	3-1-2	8.3	12.5	17.0	21.0
14-7-14	2-1-2	7.1	10.6	14.0	18.0
15-30-15	1-2-1	6.6	10.0	13.0	17.0
16-8-8	2-1-1	6.2	9.4	12.0	15.6
16-4-8	4-1-2	6.2	9.4	12.0	15.6
21-3-16	7-1-5	4.8	7.1	9.6	11.9
23-3-7	8-1-2	4.3	6.5	8.6	10.8
31-0-0	1-0-0	3.2	4.8	6.4	8.0
33.5-0-0	1-0-0	3.0	4.5	6.0	7.5
38-0-0	1-0-0	2.6	3.9	5.2	6.6
46-0-0	1-0-0	2.2	3.2	4.4	5.4

*These amounts only recommended for Programs 2 & 4. For new lawn establishment, use 2.5 lb. rate.

If the particular fertilizer you are using is not listed in the Table 3, estimate the amount, or use the following calculation to determine the exact amount of fertilizer to apply per 1000 square feet of lawn area.

$$\frac{\text{Desired lbs. of nitrogen per 1000 sq. ft.}}{\text{\% Nitrogen in Fertilizer}} \times 100 = \text{lbs. of fertilizer needed per 1000 sq. ft.}$$

For example, if one wants to apply 1.0 lb. of nitrogen per 1000 square feet using a 23-3-7 fertilizer:

$$\frac{1.0}{23} \times 100 = \text{4.34 lb. of 23-3-7 is required per 1000 sq. ft.}$$

Appendix 6

United States Department of the Interior

NATIONAL PARK SERVICE

Fredericksburg & Spotsylvania NMP
120 Chatham Lane
Fredericksburg, VA 22405

703-373-4461

IN REPLY REFER TO:

N22

January 13, 1993

Memorandum

To: Regional Director, Mid-Atlantic Region
Attn: Robert Gift, Regional Environmental Compliance Officer

RGift 1/20/93

From: Superintendent, Fredericksburg & Spotsylvania

Subject: Environmental Assessment, Record of Decision, and Finding of No Significant Impact - Bernard's Cabins Hist. Trail

Enclosed is the required documentation to implement the construction of the Bernard's Cabins Historic Trail on the Fredericksburg Battlefield.

Your immediate review, comments, and/or approval will be appreciated. Questions can be directed to Natural Resource Management Specialist John Perez at (703) 373-0834.

Maria Burks

Maria Burks

Enclosure

Recommend approval of the FONSI
Robert J Gift subject to 106
1/20/93 Compliance 2/10/93

FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK

ENVIRONMENTAL ASSESSMENT
of
BERNARD'S CABINS TRAIL

January 1993

Submitted by: John Perez — 1-14-93
John Perez, Natural Resource Management — Date

Reviewed By: [signature] — 1/14/93
Michael K. Johnson, Chief Ranger — Date

Approved by: Maria Burks — 1/15/93
Maria Burks, Superintendent — Date

This assessment is being made on the proposal to construct an interpretive trail from South Lee Drive to Bernard's Cabins. This trail will follow old road traces, and in some sections along earthworks use by elements of General "Stonewall" Jackson's infantry during their repulse of General Gibbon's attack on the right flank of the Confederate Army at Fredericksburg.

This action is tiered to one of the major objectives in the Land Protection Plan, "Make the historical points accessible to the public and to students of the battles" (page 10). Also, the General Management Plan states, "Interpret the park's cultural resources and their significance and make them available to park visitors" (page 97), and "Trails interpreted by narrative signs and supplemented by free publications are available to visitors who wish a more leisurely and intimate association with important park features than would normally be possible by driving" (page 30). By establishing the Bernard's Cabins Historic Trail, the park will be offering the visitor/student an opportunity to experience this portion of the Fredericksburg Battlefield that played a pivotal role in the Confederate victory.

I. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

The park proposes to construct an interpretive hiking trail of approximately 5100 feet from South Lee Drive to Bernard's Cabins. In the fields and woods surrounding the site, elements of the Union Army attempted a futile assault on the Confederate Army's right flank. The knoll was also home to a small community of plantation slaves. This tract of land was recently purchased for the sole purpose of preserving and interpreting the terrain where Union troops attacked the Confederate positions along the complex network of earthworks.

B. Proposed Procedures

The present tour stop pull-off along Lee Drive would be expanded to accommodate three cars, or one bus. Approximately 150 square feet of asphalt, three feet wide, would be placed along the shoulder of Lee Drive.

None of the following trail alternatives would alter drainages or in any way impact the hydrology of adjacent wetlands. Saplings would be cut from the trail path and poison ivy vines trimmed from the trail or killed with an application of an approved herbicide, all non-target plants would be avoided. No trees larger than 3"dbh would be cut for this project. No fill material will be required for this project. The trail will not cross any earthworks.

II. DESCRIPTION OF THE EXISTING ENVIRONMENT

A. Non-living Components

1. Climate: The average summer temperature is 75 deg. F with the highest daily maximum being 87 deg. F. Days are hot and often humid. The record high for the area was in August 1953, at 106 deg. F. The average winter temperature is 36 deg. F with an average daily minimum of 23 deg. F. The lowest temperature on record occurred in January 1957, at -16 deg. F. Total annual precipitation is 45.5 inches with 54% falling from April to September. The average seasonal snowfall is 18 inches. Prevailing winds are from the south with the highest average windspeed occurring in the spring at nine-miles per hour.

2. Land:

a. Soils - According to the Soil Survey of Spotsylvania County, soil types are predominately Aqualts in the low lying areas found on half of the project area. These soils are poorly drained and ponded for brief periods during winter, spring, after heavy rains, and during prolonged wet periods throughout the remainder of the year. This soil is usually associated with wetlands.

It should be noted that the trail traversing these aqualt soils follows the road trace built by the Civil Conservation Corps during the 1930's. This old trailbed allows access through these wetland soils without the placement of boardwalks and/or fill material.

Soils found in the cabin site area are composed of Goldboro sandy loam - a deep well drained soil.

b. Geology - The proposed trail follows gentle terrain from Lee Drive to the northwest through a relatively level coastal plain terrace. Bordering the trail near Bernard's Cabins are two large forested wetlands, totalling approximately 50 acres. The trail would utilize old road traces built of gravel and cinders. There is no erosion occurring in the project area including the agricultural field.

c. Land Use Suitability - Presently, the project area is supporting a mature mixed hardwood forest of oaks, sweetgum, tulip poplar, and other coastal plain species. Excellent habitat for wildlife is utilized by numerous species. Bernard's Cabins site is surrounded by a 30 acre agricultural field. After trail construction and completion of a archeological inventory, a fenced area in the field will protect the cabin site from the impacts of plowing/planting row crops.

3. Water - Surface water is present in the form of wetlands adjacent to southern edge of the proposed trail. No streams are

present along the trail route.

B. Living Components

1. Vegetation - The overstory is dominated by Oaks, Red Maple, Sweetgum, and other scattered hardwood species associated with floodplain vegetation. The understory consists of American Holly, Viburnum, Red Maple, Greenbriar, Poison Ivy, Sassafras, Highbush Blueberry, Ironwood, etc. The following table denotes the present tree species, the total saplings/seedlings, and overall species in the path of the 2,000 foot trail leading from Lee Drive (Note: No species of tree size are affected by this action).

Species	Saplings (<3"dbh, >4.5´ height)	Seedlings (<4.5´ height)
Dogwood	6	4
American Holly	0	4
Highbush Blueberry	10	5
Red Maple	36	8
Red Cedar	2	0
Ironwood	5	0
Azalea	3	0
Sassafras	0	1
Fetterbush	2	2
White Oak	2	1
Black Gum	4	0
Sweetgum	11	5
Viburnum	5	2
Sweetbay Magnolia	0	3
Total	86	35

According to the Virginia Natural Heritage Program, there are no rare, threatened, or endangered species along the proposed trail route. Site visits by the park´s Natural Resource Management Specialist also failed to produce any evidence of rare species.

2. Wildlife - No thorough inventory of avian residents exists. Many species of Warblers and Flycatchers can be expected to reside in the adjacent forested wetlands. No nesting activity was observed within the proposed trail route. Deer, turkey, groundhogs, squirrels, and other rodents either reside or transit the area. No reptiles were observed in the area.

C. Ecological Interrelationships

At present the project area consists of a mature oak forest and agricultural field. The farmer of the Bernard's Cabin site spends approximately four working days in the field, spilt between spring and fall. Animals and plants of the forest and field "edge" are allowed to exist with little influence by humans.

The proposed trail will traverse a forested area undisturbed for decades, and introduce unknown numbers of visitors into this natural habitat. It is unknown what effects, if any, this human activity will have on animal feeding or breeding habits. The trail will avoid the biologically diverse wetlands.

D. Human Values

The chief use of this area would be agricultural, recreation, and historical interpretation. Installation of the trail would constitute a substantial step toward meeting the park's congressional mandate to make the "...historic points accessible to the public and to the students of said battles..." (Fredericksburg & Spotsylvania County Battlefields Memorial National Military Park enabling legislation, 1927).

III. ANALYSIS OF PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

It is proposed that the first 2,000 feet of the trail follow the old CCC Bridal Path. A trail width of six feet will be maintained to provide access for mowing equipment to Bernard's Cabins, as access is otherwise unattainable. Saplings and seedlings will be cut with handtools and their roots grubbed out of the ground. The trail surface will be natural, no fill will be used on any portion of the trailbed. The next 1,900 foot segment will be constructed for foot travel only, and will maintain a width of 3 feet just inside the woodline. A half acre exclusion zone would be maintained in sod around the Cabin Site and bordered by a wooden fence or other delineating device.

The 1,100 feet of the loop trail traversing the field would be maintained in sod. The trail would cross the exclusion zone mentioned above. The permittee would exclude the trail and cabin site from all farm operations.

Pursuant 106 approval and concurrence of the Superintendent, it will be determined which route will be utilized - the Loop Trail or Direct Route. Questions remain concerning the maintenance costs and interpretive value of each trail. For the purposes of this document, there are no outstanding environmental concerns that would eliminate an alternative from consideration.

1. Anticipated Impacts - If the general procedures are followed, impacts on the area will be minimal. Some rutting may occur from mowing equipment using the trail, but impacts should be keep at a minimum if equipment is used only during dry periods in summer. Access to the previously remote earthworks may subject them to trampling and erosion caused by trail shortcutters. However, if the portion of the proposed trail slipping around the southern terminus of the earthworks is placed at a proper distance, hikers will not be inclined to cut across earthworks. This area is favored by illegal relic hunters and there is concern that this activity may increase with easy access made by this trail. The trail may also have the opposite effect of discouraging relic hunters because of their increased visibility to visitors. It remains unknown, whether the increased human activity will have an impact on breeding birds and animals.

2. Recommendations For Mitigating Measures - The elimination of the loop trail would free the farmer to implement plowing/planting activities unabated. Every effort will be made to properly place the trail away from earthworks so as to discourage crosscutting and trampling. Maintenance personnel will limit the size of mowing equipment to riding lawnmowers in order to prevent severe rutting of trailbed. A gate will be placed at the entrance of the trail to prevent unauthorized vehicle access.

B. Relationship Between Short-Term And Long-Term Productivity

This relationship is weighted toward the long-term maintenance and public enjoyment of the historic trail. If the proposed action is followed, maintaining the Cabin Site and trail will require bi-annual mowing and pruning. If the Loop Trail is chosen, maintaining the additional area will double the maintenance time. The Loop Trail borders the fightpath of Shannon Airport, and with each flight, the public will be exposed to noise and visual interruption of their Civil War experience. Lastly, eliminating as much maintenance of turf, with its associated cost and pollution, should be given careful consideration when selecting an alternative.

Long term monitoring of possible impacts to breeding bird populations will be initiated in the spring of 1993, and will continue yearly within the large wetland adjacent the project area.

IV. Persons, Groups, And Government Agencies Consulted

Noel Harrison, Cultural Resource Mgmt. Specialist, FRSP
Hal Wiggins, Regulatory Specialist, Army Corps of Engineers
Chris Ludwig, Virginia Natural Heritage Program
Planning Staff, Denver Service Center, NPS

V. Summary

This proposal will provide visitor access to a critical portion of the Fredericksburg Battlefield, exposing visitors to features of terrain that play a pivotal part in the Confederate victory. The overall impacts to natural and cultural resources will be minimal and will involve a small area of the park. Critical wetlands will not be directly impacted by this proposal.

APPENDICES

APPENDIX 1: Map of proposed trail
APPENDIX 2: Section 106 Compliance

FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK
JANUARY 1993
Record of Decision and Finding of No Significant Impact
Bernard's Cabins Historic Trail

Submitted by: Maria Burks 1/11/93
Maria Burks, Superintendent Date

Approved by: Charles P. Cahill 2/16/93
John Reynolds, Regional Director Date

The park proposes to construct a key historic trail on the Fredericksburg Battlefield. The following will provide you with the rationale used, and the consultations performed, to determine the strategy the park will use in constructing the trail. The trail is crucial in providing visitor access to the site of a small slave community, known during the Civil War as "Bernard's Cabins;" the site of a major Confederate artillery position; and offers an excellent vista from which to view the terrain used by the Union attack against General "Stonewall" Jackson's Corps.

Background

The action being proposed is tiered to one of the major objectives of the General Management Plan, "Interpret the park's cultural resources and their significance and make them available to park visitors" (page 97), and "Trails interpreted by narrative signs and supplemented by free publications are available to visitors who wish a more leisurely and intimate association with important park features than would normally be possible by driving" (page 30).

In establishing the Bernard's Cabins Trail, the park will offer the visitor/student an opportunity to experience a previously remote portion of the Fredericksburg Battlefield that played a pivotal role in the Confederate victory.

Proposal

The purpose of the proposed action is to construct an interpretive hiking trail of approximately 5000' to the Bernard's Cabins. Most of the land traversed by the trail was recently purchased for the sole purpose of preserving and interpreting the terrain where Union troops attacked Confederate positions.

The present tour stop pull-off along Lee Drive would be expanded to accommodate three cars, or one bus. Approximately 150 square feet of asphalt, three feet wide, would be placed along the road shoulder.

The project would not alter drainages or in any way impact the hydrology of adjacent wetlands. The majority of the trail would follow an existing remnant of a 1930s CCC bridal trail. Saplings would be cut from the trail path and poison ivy vines trimmed from the trail or treated with an approved herbicide, all non-target plants would be avoided. No tree larger than 3" dbh would be cut for this project. No fill material will be required, the existing natural litter will serve as a trailbed. The trail will not cross any earthworks.

An exclusion zone of approximately one acre will be established around the Cabin site to protect archeological resources. The farmer/permittee will continue to plant row crops in the remaining portion of the field.

Consultation

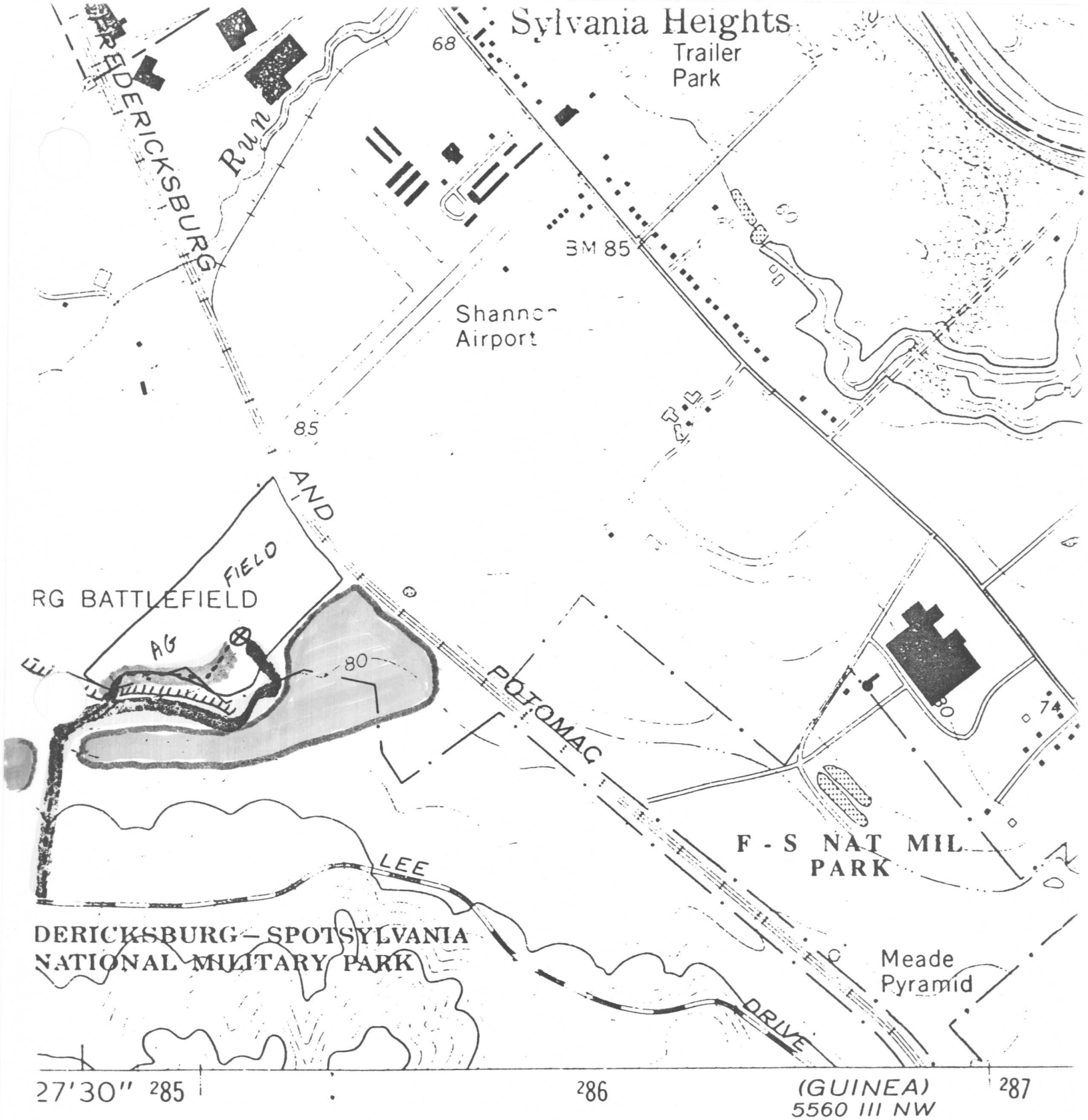
Consultation has been completed with the following offices and individuals:
Chris Ludwig, Virginia Natural Heritage Program
Hal Wiggins, Army Corps of Engineers, Fredericksburg Ofc.
Denver Service Center, Branch of Planning
Bob Krick, Chief Historian, Fredericksburg & Spotsylvania NMP
Nape Shelton, Ornithologist, WASO

FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment and the rationale of the decision above, I find that the Bernard's Cabins Historic Trail is not a major Federal action significantly impacting the quality of the human environment under Section 102 (2) (c) of the National Environmental Policy Act of 1969. The action to be taken in connection with this proposal is consistent with the objectives and polices of that act.

The impact of implementing this trail construction does not appear to be highly controversial. The project does not commit the National Park Service to specific future actions that will constitute a significant or controversial impact. The impact of the proposal is not of a cumulative nature either in itself or in conjunction with the other Federal or non-Federal projects. Therefore, pursuant to Section 102 (2) (c) of the Environmental Quality and National Park Service Guidelines, the proposal herein does not require the preparation of an environmental impact statement.

APPENDIX 1



SCALE 1:24 000

1 0 1/2

1000 0 1000 2000 3000 4000

1 5 0

DIRECT TRAIL ALTERNATIVE

LOOP TRAIL ALTERNATIVE

MOWER ACCESS

WETLANDS

BERNARD'S CABINS

EARTHWORKS

CONTOUR INTERVAL 10 FEET

NATIONAL GEODETIC VERTICAL DATUM

APPENDIX I

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. ORIGINATING OFFICE

1. Park: Fredericksburg & Spot. N.M.P. Park district (optional) Fredericksburg Battlefield

2. Work/Project Description:
a. Project name Install Interpretive Trail park project #(s)_____
b. Describe project and area of potential effects (as defined in 36 CFR Part 800.2(c)); explain why work/project is needed.

See attached 106 Effect Report.

3. Has the area of potential effects been surveyed to identify cultural resources?
___ No
_X_ Yes Source or Reference HRS (Gazetteer and overlay components)
___ Check here if no known cultural resources will be affected. (If area has been disturbed in the past, please explain or attach additional sheets to describe nature, extent, and intensity of disturbance.)

4. Affected Resource(s):
Name and number(s): Fredericksburg Battlefield location: Fredericksburg NR status: entered
Name and number(s):_____ location:_____ NR status:_____
(REPEAT FOR EACH AFFECTED RESOURCE)

5. The proposed action will: (Check as many as apply.)
___ Destroy, remove, or alter features/elements from a historic structure
___ Replace historic features/elements in kind
___ Add nonhistoric features/elements to a historic structure
___ Alter or remove features/elements of a historic setting or environment (inc. terrain)
_X_ Add nonhistoric features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
_X_ Disturb, destroy, or make archeological resources inaccessible, or alter terrain
_X_ Potentially affect presently unidentified cultural resources
___ Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
___ Involve a real property transaction (exchange, sale, or lease of land or structures)
___ (OPTIONAL) Meet criteria for Programmatic Exclusion C.1 ___ in the 1990 Servicewide Programmatic Agreement for Section 106 compliance.
___ Other (please specify)

6. Measures to prevent or minimize loss or impairment of historic/prehistoric fabric, setting, integrity, or data:

See attached 106 Effect Report.

7. Supporting Study Data: (attach if feasible; if action is in a plan, give name and project or page number):

8. Attachments: [ ] Maps [ ] Archeological Clearance, if applicable [ ] Drawings [ ] Specifications
[ ] Photographs [ ] Scope of Work [ ] Site plan [ ] List of Materials [ ] Samples
[x] Other 106 Effect Report and its Attachments

9. Prepared by Noel G. Harrison Date Dec. 16, 1992

Title Cult. Resources Specialist Telephone (703) 371-0802

10. I certify that the proposed work conforms to NPS Management Policies and NPS-28.

Signature of Superintendent [signature]

Date 12/21/92

B. REGIONAL ASSESSMENT

RECOMMENDED ASSESSMENT OF EFFECT (completed by Regional compliance coordinator):

_____No Effect _____No Adverse Effect _____Adverse Effect

COMPLIANCE REQUIREMENTS--PLEASE INDICATE WHICH OF THE FOLLOWING APPLIES.

[ ] 1. STANDARD 36 CFR PART 800 CONSULTATION
Consultation under 36 CFR Part 800 has been carried out subsequent to preparation of this XXX form.

[ ] 2. PROGRAMMATIC EXCLUSION
The above action meets all conditions for a programmatic exclusion under Stipulation C.1 or C.2 of the 1990 Servicewide PA.
APPLICABLE EXCLUSION(s): C.1 _____ [specify a-m] or C.2 addition.

[ ] 3. PLAN-RELATED UNDERTAKING
Consultation about the proposed undertaking was completed in the context of a plan review process, in accordance .... the 1990 Servicewide PA, Stipulation E or F, and 36 CFR Part 800. (If Stipulation F of the 1990 PA applied to this case, please so note.)

[ ] 4. MOA-RELATED UNDERTAKING
Consultation about the proposed action was conducted in development of a Memorandum of Agreement or Programm Agreement approved by NPS, the SHPO and the Advisory Council.

Contingent upon stipulations developed in the consultation process or listed above, requirements for Section 106 compliance have been met.

STIPULATIONS/CONDITIONS:

Signed _____ Date _____
Regional Compliance Coordinator

Approved _____ Date _____
Regional Director

C. REGIONAL CULTURAL RESOURCES SPECIALIST REVIEW

REGIONAL CONTROL#_____ IDLCS#_____ IDCLI#_____ CSI/ARI#_____

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1990 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and NPS-28. I have stated any additional stipulations that should apply, and I concur in the recommended assessment of effect above.

SIGNED:

_____ _____

REGIONAL ARCHEOLOGIST Date

Comments:_____

_____ _____

REGIONAL HISTORICAL LANDSCAPE ARCHITECT* Date

Comments:_____

_____ _____

REGIONAL CURATOR Date

Comments:_____

_____ _____

REGIONAL ETHNOGRAPHER* Date

Comments:_____

_____ _____

REGIONAL HISTORIAN Date

Comments:_____

_____ _____

REGIONAL HISTORICAL ARCHITECT Date

Comments:_____

_____ _____

OTHER Date

Comments:_____

* Regions without a Regional historical landscape architect or ethnographer leave these lines blank.

Draft cover letter to SHPO:

The National Park Service proposes to install an interpretive trail in the Fredericksburg Battlefield unit of the Fredericksburg and Spotsylvania National Military Park. The unit is located in Spotsylvania County, Virginia. Because of the length of the trail; its potential impact upon previously-undisturbed ground, subsurface cultural resources, and the cultural landscape; and the listing of the park on the National Register of Historic Places, this undertaking is being submitted for review under the provisions of Section 106 of the National Historic Preservation Act, as amended.

Installation of the proposed trail will constitute a substantial step towards meeting the park's GMP directive to "interpret cultural resources and their significance and make them available to park visitors." Installation will also fufill a site-specific mandate for accessibility and interpretation established when Congress, in 1979, approved acquisition of the historic Bernard's Cabins knoll, a key landmark on the Fredericksburg Battlefield.

Installation entails clearing vegetation to a width of six feet from a route one-half mile in length. All but 50 yards of the trail will traverse previously-disturbed areas. The trail itself will not require bridges, surfacing, or ground disturbance. Vegetation-clearance will be followed by installation of nine, waist-high, two-post interpretive signs along the route. The Regional Archaeologist has determined that....The Regional Landscape Architect has determined that....

We believe that this undertaking will....Enclosed for your review is a Section 106 Case Report and its supporting attachments. We request....

AGENCY OFFICIAL 106 EFFECT REPORT
MID-ATLANTIC REGION
NATIONAL PARK SERVICE

I. Project Title: Install Interpretive Trail to Site of Bernard's Cabins

II. Name and Address:

Superintendent
Fredericksburg and Spotsylvania NMP
120 Chatham Lane
Fredericksburg, Virginia 22405

III. Description and Purpose of Undertaking:

Install an interpretive trail, one-half mile in length, connecting a wayside on Lee Drive to a recently-acquired knoll. That landmark encompasses the site of a small slave community, known during the Civil War as "Bernard's Cabins;" the site of a major Confederate artillery position; and a splendid point from which to view the path of one of the larger Union attacks launched during the Battle of Fredericksburg. Through this project Fredericksburg and Spotsylvania seeks to implement its GMP directive to interpret "cultural resources and their significance and make them available to park visitors."

To accomplish this undertaking, the park proposes to:

A. install a trail along the half-mile route by clearing vegetation to a width of six feet. All but 50 yards of the trail will traverse previously-disturbed areas: a road trace; an abandoned, overgrown bridle trail; and a field which has been in continuous cultivation since the end of the Civil War. Judging from on-site physical evidence and the park's overlay maps, the 50 yards of virgin ground do not contain any historic structures or sites of structures. The trail itself will not require bridges, surfacing, or ground disturbance. Its borders will not come closer than six feet to any Civil War earthwork.

B. install nine two-post signs along the trail. These will interpret events during the Battle of Fredericksburg, potential archaeological findings at the cabins knoll, and the African-American presence there. The three signs proposed for the knoll may effect subsurface cultural resources associated with Bernard's Cabins and will require archaeological investigation. Judging from on-site physical evidence and the park's overlay maps, the remaining signs will not impact subsurface cultural resources--a hypothesis, of course, best tested through archaeology.

C. expand to bus-size the extant wayside, which would then become the trailhead, on the east side of Lee Drive. This endeavor will entail widening the wayside by four feet and lengthening it, along Lee Drive, by 20 feet. The expanded wayside will impact an area undoubtedly

disturbed by the original road/wayside construction and landscaping and will not come closer than ten yards to the nearest Civil War earthwork.

IV. Property Description:

A. Major Physical Components--The proposed trail route begins at a wayside on Lee Drive, the sole tour road on the Fredericksburg Battlefield; extends past a series of Confederate earthworks; and traverses three landscape elements present during the Civil War: a forest, a field, and an open knoll. Much of the route follows a Civil War-era road trace and an abandoned, cinder ballasted bridle trail constructed during the 1930's.

B. Historical Significance--
1. According to the park's HRS, two or three wooden dwellings--of unknown design--comprised the Civil War landmark known as "Bernard's Cabins." These were part of the large estate of Arthur H. Bernard, who owned 67 slaves in 1860. The cabins were extensively damaged during the Battle of Fredericksburg but apparently rebuilt or repaired, and reoccupied, after the Civil War. They were destroyed at some date prior to 1931.
2. The Bernard's Cabins knoll was the objective of one of the two major assaults made by that portion of the Union army positioned on the southern half of the Fredericksburg Battlefield. Confederate artillery massed on the knoll and infantry positioned around it repulsed the attack in bloody fighting.

C. Archaeological Resources--The knoll, acquired during the past year, and the other areas traversed by the proposed trail route have not been investigated archaeologically. The surface of the knoll is strewn with brickbats, sherds, and other artifacts. A stone-lined well, now covered with a safety cap, is located on the eastern slope of the knoll.

V. Effect Analysis: The project may affect archaeological resources on the Bernard's Cabins knoll. The project will affect the cultural landscape in a very limited manner by adding nine, waist-high signs, three of which will be located in a field.

VI. Description of Alternatives:

"Follow another route." This would increase the amount of previously-undisturbed ground impacted by the trail and necessitate bridging of a marshy area and earthwork lines.

VII. Description of Mitigation Measures:

A. The regional archaeologist will investigate the proposed sign locations, placing special emphasis upon those atop the knoll.
B. The proposed trail route follows a maximum amount of previously-disturbed ground.
C. The proposed trail route avoids crossing earthworks.

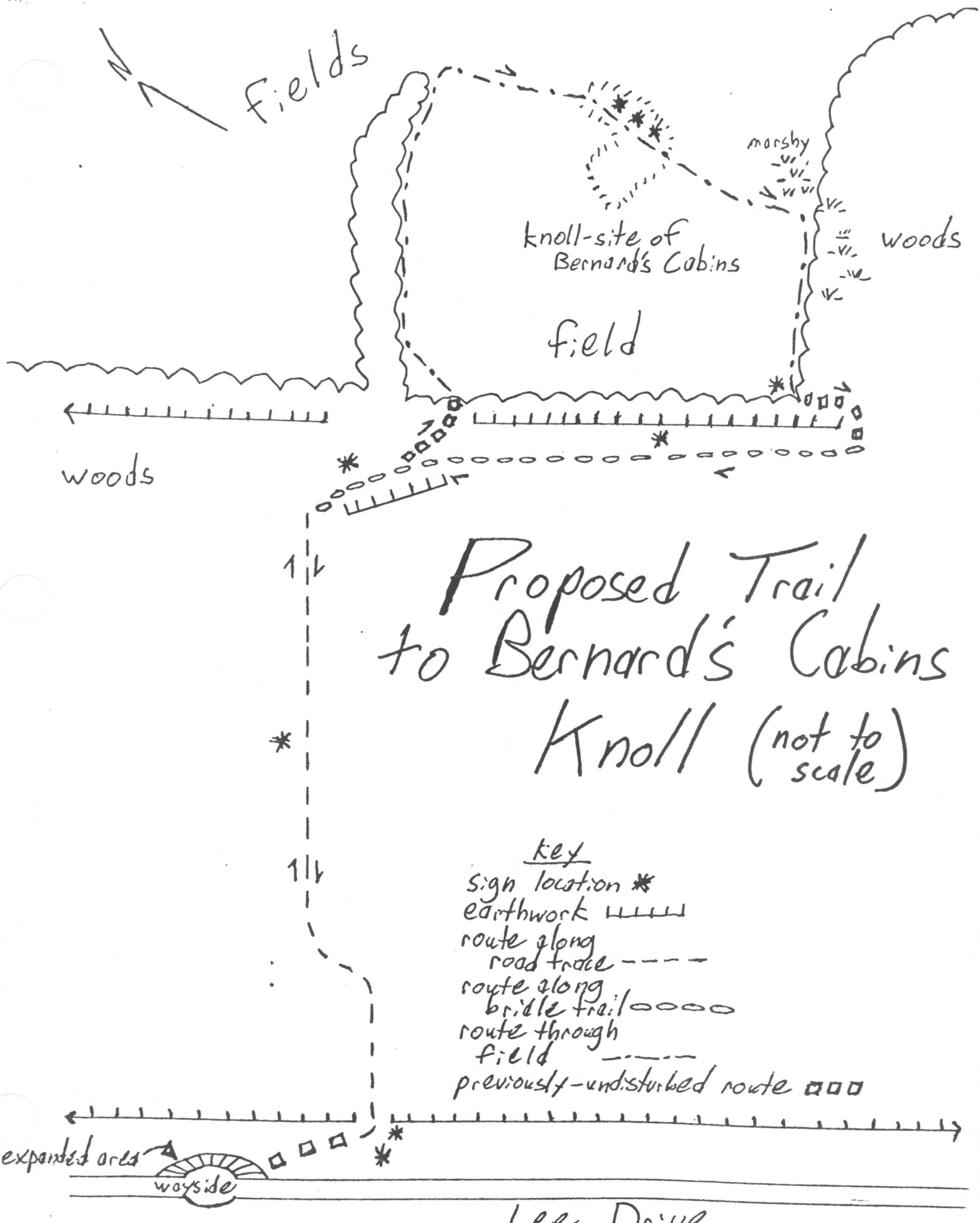
VIII. Supporting Documentation:

A. park map
B. site plan
C. photographs
D. copy of HRS (Gazetteer component) entry on Bernard's Cabins
E. copy of RMP project statement regarding archaeological investigation at site of Bernard's Cabins

IX. Conclusion: Installation of the proposed trail will constitute a substantial step towards meeting the park's GMP directive to "interpret cultural resources and their significance and make them available to park visitors." Installation will also fufill a site-specific mandate for accessibility and interpretation established when Congress, in 1979, approved acquisition of the Bernard's Cabins knoll. The proposed trail may effect archaeological resources on the knoll. The proposed trail will affect the cultural landscpe in a very limited manner by adding nine waist-high signs. Because of the mitigation measures, it will not affect other cultural resources.

X. Prepared by:

Noel G. Harrison
Cultural Resources Specialist
(703) 371-0802
Dec. 16, 1992


Fields
marshy
knoll-site of
Bernard's Cabins
woods
field
woods
Proposed Trail
to Bernard's Cabins
Knoll (not to scale)
key
sign location *
earthwork
route along
road trace
route along
bridle trail
route through
field
previously-undisturbed route
expanded area
wayside
Lee Drive

GAZETTEER OF HISTORIC SITES

RELATED TO

THE FREDERICKSBURG AND SPOTSYLVANIA

NATIONAL MILITARY PARK

VOLUME ONE

(Fredericksburg Battlefield)

Noel G. Harrison

Fredericksburg and Spotsylvania
National Military Park

1986

BERNARD'S CABINS

OTHER NAMES:

"Bernard's Quarters," "Negro Cabins"

DATE OF CONSTRUCTION:

Unknown

PRE-WAR DESCRIPTION:

Little is known about this battlefield landmark, other than the fact that it was a cluster of two or three small buildings. These were home to some of the slaves of Arthur H. Bernard, who lived at nearby Mansfield. Bernard owned 67 slaves in 1860. The cluster of cabins was located on a knoll southwest of the RF&P railroad. The buildings were connected to Mansfield by a road that ran perpendicular to both the railroad and the Richmond Stage Road.

WARTIME DESCRIPTION:

Confederate Captain Greenlee Davidson described the defense of Bernard's Cabins knoll made by the nine artillery sections placed under his command on 13 December 1862:

> About three hundred yards in front of my battery [and] lying in the track of the railroad, was our line of pickets....
>
> [The enemy] moved up in heavy column of infantry...firing as they came.
>
> Our skirmishers became panic stricken and gave way...[exposing] my Battery....
>
> ...the advancing column...was now on the south side of the railroad and within a stone's throw...dashing at us at a full run.
>
> ...my guns were double shotted with Canister and we let them have it low. The head of the column went down like wheat before the reaper. Another and another volley in quick succession completed the work. The Yankees broke, took to their heels and you never saw such a stampede....The grove of pines in my front is no longer entitled to the name of a grove.
>
> Many of the trees [were] cut short off and the trunks and branches are scattered around in every direction.

The negro cabins are in ruins.

The [l]imber chest of Lt. [R.O.] Grayson's ignited by a Yankee shot has exploded tearing up and blackening the ground.... Ten pds. shell were thrown in every direction...and some 15 or 20 of them exploded inside of the battery.

One of Captain Brown's men who was giving out ammunition was severed in twain and burned to a crisp. His clothing was stripped from his body and blown into the top of a tall pine.

Captain Greenlee Davidson, pp. 63-64.

Following the Union assaults, one of which Davidson describes, the Confederates counterattacked. A Union artilleryman wrote this account of the ensuing action, and of the firing of his battery upon Confedreate troops positioned in and around one of Bernard's Cabins:

During the advance of the enemy General Howe ordered the Battery to open fire on the flank of advancing enemy, and asked one of the gunners to take a shot at an officer on a white horse, who was apparently in charge of the enemy's sharpshooters near a house southwest of our position. The shell blew the officer out of the saddle, and the horse went galloping into our lines. Another shot toppled the chimney of the house, and a few more as well directed made the weather-boarding fly in splinters, rendering the house untenable to the enemy, who scampered away to other cover. Early in the action a shot from our guns blew up a Rebel caisson.

Hanifen, p.36.

PRESENT CONDITION:

Bernard's Cabins are no longer standing. The buildings were heavily damaged during the December 1862 battle, and, by April 1864, Arthur Bernard was complaining that "every outhouse on the [Mansfield] Estate—30 in number" had been destroyed. An 1867 map, however, shows several buildings on the Bernard's Cabins knoll, indicating that the structures were rebuilt. The presence here of a 20th century well cover and numerous late 19th/early 20th century domestic artifacts is further evidence for postwar habitation.

BIBLIOGRAPHY:

OR XXI, pp. 636-37; Michael Hanifen, History of Battery B, First New Jersey Artillery. p.36 (Chatham--to be bound); Charles W. Turner (ed.), Captain Greenlee Davidson, C.S.A. Dairy and Letters 1851-1863. Verona, Va.: McClure Press, 1975, pp. 63-65; Arthur Bernard to General Robert E. Lee, 18 April 1864 (Chatham--"Fredericksburg, Chancellorsville, Jackson Shrine" binder); memo in "Bernard's Cabins" file (Chatham); Chancellorsville Map Documentation, p. 89; Fredericksburg Map Documentation, pp. 132, 168-69; 1860 Slave Schedule, St. George's, p. 113.

Graphics: MBCW I, N.Y., 292, p. 270 (engraving of slave cabins, in Stafford County area, that might have been similar in appearance to Bernard's Cabins); photo of "Negro Cabins" on Wilderness Battlefield in "Wilderness Area" historic graphics file at Chatham--these, also, might have been similar in appearance); OR Atlas, plate XXXIII, map 1, plate XLI, map 1; Fredericksburg overlay map.

WARTIME VIEW NOT FOUND



The buildings depicted in this 1865 image of "Negro Cabins" on the Wilderness Battlefield may have been similar in appearance to Bernard's Cabins. Photo courtesy of NPS.



Figure in center stands at site of Bernard's Cabins. RF&P Railroad follows edge of field in left background. Looking northeast.

RESOURCES MANAGEMENT PLAN

FREDERICKSBURG AND SPOTSYLVANIA

NATIONAL MILITARY PARK

Recommended by: _____ 7/24/92
Superintendent Date

Approved by: _____ 9/18/92
Acting Regional Director Date

FRSP-C-005.015

PROJECT STATEMENT SHEET

PROJECT NUMBER: FRSP-C-005.015

TITLE: INVESTIGATE, STABILIZATION, & PROTEC. OF ARCH. RES.
SUBPROJECT TITLE:

FUNDING STATUS: FUNDED: 0.0 UNFUNDED: 547.0

SERVICEWIDE ISSUES: C02 INADEQUATE INV C07 INADEQUATE LCS

CULTURAL RESOURCE TYPE CODE: SITE

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The park's archeological resources desperately need attention. It has no archeological overview and assessment. At least a dozen structural sites or ruins have long been ear-marked for use as key interpretive devices, based upon the findings of the Historic Resources Study, but still cannot function as such because they lack archeological verification, exploration, and stabilization. At least a half-dozen "dug" sites are of equal value, but their excavations were preliminary or otherwise not completed to a degree appropriate to their interpretive potential. Also, little is known about the specific locations of African-American habitation sites at the plantation-homesteads now interpreted by the park. In addition, the LCS-update team currently has only an incomplete inventory of archeological resources (classified as structural "ruins") with which to implement its survey of Fredericksburg and Spotsylvania in 1993. As discussed in FRSP-C-011, metal-disc "seeding" offers a very promising deterrent against the illegal removal of archeological resources, but also carries the potential for causing confusion by introducing non-historic elements into the stratigraphy of unexplored or undocumented sites. Finally, continued horseback-riding on the battlefields will have a lethal impact upon the shallow-depth sites which typify the park's civilian and military archeological resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

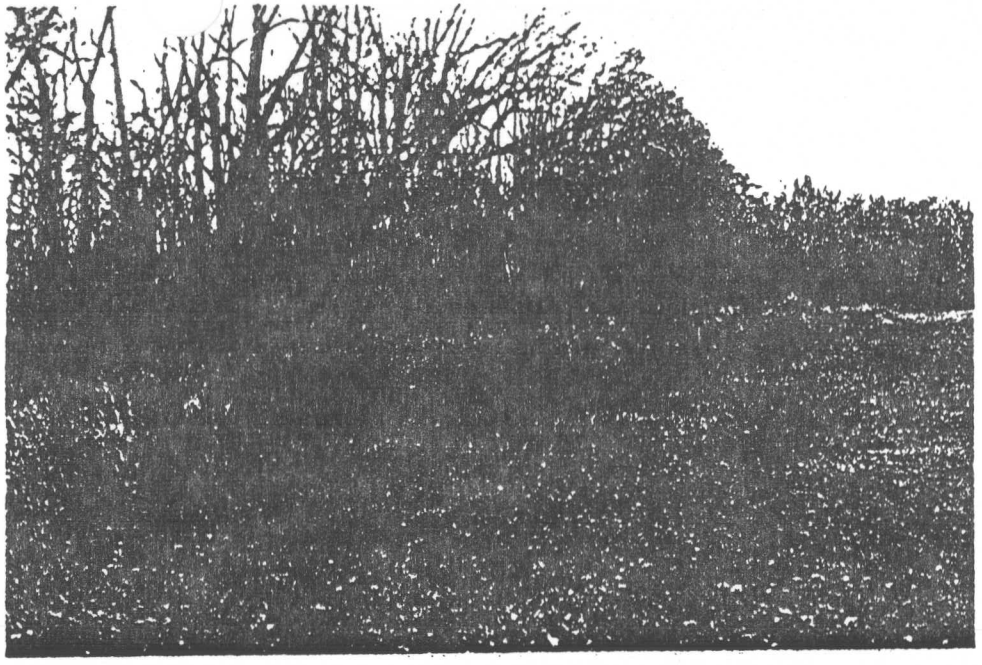
Prepare an archeological overview and assessment. Conduct archeological explorations and stabilizations at a dozen structural sites of primary interpretive potential: Bernard's Cabins, Willis Hill Building, Stone Wall remnant on west side of Sunken Road, Fairview, Bullock, Maury, Wellford, Van Wert, Higgerson, Chewning, Spindle, and Harrison. Conduct archeological re-explorations and stabilizations at a half-dozen additional sites of primary interpretive potential: Stephens, Ebert, Fairfield Dependencies, Ellwood Dependencies, McCoull, and Landrum. Conduct archeological explorations at Chatham, Ellwood, Fairfield, and La Villa to locate African-American habitation



Route of proposed trail, looking east from Lee Drive (foreground) along Civil War-era road trace (center). Extant wayside proposed for expansion is out of view at left.



Route of proposed trail, looking east along Civil War-era road trace.



Route of proposed trail, looking east along trees at edge of field.



Route of proposed trail (center), looking north along abandoned bridle trail. Confederate earthworks at right.

United States Department of the Interior

NATIONAL PARK SERVICE

Fredericksburg & Spotsylvania NMP
120 Chatham Lane
Fredericksburg, VA 22405

703-373-4461

IN REPLY REFER TO:

N22

May 28, 1991

Memorandum

To: Regional Director, Mid-Atlantic Region
Attention: Robert Gift, Environmental Compliance Officer

From: Superintendent, Fredericksburg and Spotsylvania

Subject: Environmental Assessment, Record of Decision and Finding of No Significant Impact - Milstead Ponds Dam Deactivation

The park proposes to de-activate two man-made farm ponds located on the Fredericksburg Battlefield. Both dams have been classified as "Seriously Deficient" by Charles Karpowicz, NPS Dam Safety Officer and pose an immediate and real threat to park resources, as well as RF&P Railroad property.

The enclosed information documents the impacts of this decision. Please review, comment, and/or approve as necessary. Deactivation of the ponds is planned for the very near future due to their serious condition, so your immediate attention to this matter will be appreciated.

Maria Burks

Maria Burks

Enclosures

FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK

ENVIRONMENTAL ASSESSMENT

of

MILSTEAD PONDS DAM DEACTIVATION

June 1991

Submitted by: Victoria Reifenberg 5/28/91
Victoria Reifenberg, Date
Resource Management Ranger

Reviewed by: 5/28/91
Michael K. Johnson Date
Chief Ranger

Approved by: 5/30/91
Maria Burks Date
Superintendent

This assessment is being made to remove two potentially dangerous dams and restore the Milstead property of the Fredericksburg Battlefield, Fredericksburg and Spotsylvania National Military Park. The two present ponds are a hazard to visitors, historic resources, and to the RF&P Railroad.

This action is tiered to the major proposal of the Park's General Management Plan (approved August 26, 1986) to re-establish historic scenes and to follow the Department of Interior's directive, NPS-40 to remove all non-essential dams and appurtenant works. By removing the ponds, buildings, and reforesting the property, the park will both eliminate a potential serious hazard and provide a forested background to the proposed scene restoration of Prospect Hill thereby enhancing the historic setting of the park.

I. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

The park proposes to implement a three-phase plan to eliminate two "seriously deficient" dams to include immediate dewatering, provide an engineering study of the area to determine how best to accomplish the complete removal of the dams, and following up the study with contractoral removal of all man-made structures, re-grading, seeding, strawing, and natural forest regeneration.

B. Proposed Procedure

Phase 1: The first phase will be completed either by the Soil Conservation Service or the Bureau of Land Management. The organization will drain the lower, .8 acre pond and breach the spillway. The larger, 1.7-acre pond will then be slowly drained and the dam breached. The water will be released in a controlled manner into an existing drain running southeast through the park. Controlled drainage will prevent any damage to park resources or to the property of the RF&P Railroad. During draining, the U.S. Fish and Wildlife Service will net and transport all fish to another destination. This phase will be completed when all water has been drained from both ponds and the dams broken so that future water retention is eliminated.

Phase 2: An engineering study will be done to determine the best course of action for removal of the two dams and regrading of the pond areas. The study results will be examined and a subsequent plan of action will be formulated for the completion of the last phase of the Milstead restoration.

Phase 3: A contractor will use heavy machinery, bulldozers and graders, to raise and remove all buildings and debris on the property and to re-grade the land. Rubber-tired tractors will be used to spread fertilizer, lime, and seed on the resulting fields. Straw will be applied to prevent erosion. The area will then be allowed to naturally reforest and eventually provide a background to a proposed scene restoration effort on Prospect Hill.

C. Alternatives

1. No Action - This alternative is not viable due to the seriousness of the situation. Both dams have been declared "seriously deficient" by the National Park Service's Dam Coordinator. This alone will not allow for the no action alternative. If nothing is done to alter the condition of the dam, they will burst and cause serious damage to the RF&P Railroad as well as to park property.

2. No Action plus Maintenance - This will minimize the probability of a natural breach through the stabilization of the berm and replacement of the spillways and drains. This alternative is costly and defeats the objectives of the General Management Plan of the park. To replace the overflow drain would also require dewatering and breaching due to its poor condition.

3. Drain and Leave a Lip for Wetland Retention - This alternative will defeat the objective of the General Management Plan by allowing the property to retain an un-natural wetland; the wetland being created post-Civil War.

4. Blow Berm and Let Water Flow - This will speed up the process of breaching the dam and restoring the field. Though simple, this would create a danger to both park visitors and to the RF&P Railroad. The quick release of the water will succeed in doing exactly what this proposal tries to prevent.

II. DESCRIPTION OF EXISTING ENVIRONMENT

A. Non-Living Components:

1. Climate: The Milstead property is located within the County of Spotsylvania. Spotsylvania has a mean annual temperature of 56° F with mild winters and warm, humid summers. The daytime highs in winter are in the upper 40's with the summer temperatures reaching the upper 80's. The nighttime lows in the winter months are in the mid 20's and low 60's in the summer. The annual average precipitation level is 40 inches with a minimum falling in August and the maximum precipitation level in February. Snowfall averages 16 inches per year, but is highly variable.

2. Land:

a. Soils - The soils of this area are Faceville-Varina. These soils are deep, sloping, and well drained. Permeability of these soils is moderate to slow, and the available water capacity is moderate. Surface runoff is medium to rapid. Erosion is a severe hazard. The potential productivity for trees is moderately high, especially for Loblolly pine and upland oaks.

b. Geology - Fredericksburg lies on a ridge that forms the fall line separating Piedmont from Coastal Plain. There are a series of piedmont terraces cut by numerous small streams with soils that are poorly drained, medium to fine textured, with a slow internal drainage. Drainage into the ponds is generally east to southeast. Drainage from the lower pond is generally northeastern.

c. Land Use Stability - The Milstead property is presently not in use by visitors or park personnel. In the future, the property will continue to be under low usage providing a visual forested background for the proposed scene restoration on Prospect Hill.

3. Water - Surface water is present in the form of two man-made farm ponds. The smaller pond is approximately .8 acres while the larger, upper pond is approximately 1.7 acres.

B. Living Components

1. Vegetation - The ponds on the Milstead property are un-natural and man-made. This is proven by the existing vegetation and the lack of wetland species found in the survey. Trees growing around the pond include white oak, willow oak, sweet gum, maple, and birch. All of the white oaks growing closest to the pond are now dead or dying due to the increase in water in the pond. All other species are not wetland species, but moist site species. These species do not represent a change in habitat from woodland to wetland, as the pond sits in a natural lowland and drain.

In the fields surrounding the ponds several species of wildflowers were discovered, all of which are indicative of dry fields. These species include: Deptford Pink, Rough-fruited Cinquefoil, Bicknell's Cranebill, Blue Toadflax, Yellow Woodsorrel, Fleabane spp., Long-leaf Houstonia, Balsam Ragwort, Indian Strawberry, Milkweed, Mullien, and Venus' Looking Glass. Also growing in the field were several Ailanthus trees, Japanese Honeysuckle, brambles, broomsedge, catbrier, and cedar. No rare, threatened, or endangered species were found on the site.

2. Wildlife - Birds observed in the area around the ponds were a resident goose, sparrow, phoebe, red-tailed hawk, swallow, Eastern bluebird, mockingbird, and a Great Blue Heron. No Canadian Geese were observed, although the ponds could provide a temporary resting place for migrating fowl. Eastern bluebirds, phoebes, and red-tailed hawk have been observed nesting in the area of the ponds. Chipmonks were the only mammal observed. The ponds do provide a water source for foraging animals, especially deer. Amphibians and fish were also present.

C. Ecological Interrelationships

Succession species of the field include Oak, Maple, Poplar, Cedar, Sweetgum, Broomsedge grasses, and various brambles. Future succession for the pond areas are foreseen to be equal to the species listed previously with an emphasis on Maple and Poplar. According to the existing flora of the area surrounding the ponds, the transition to a wetland is nearly non-existent. Some wetland species are present, but the vast majority are still, and in future will be, moist, lowland species. Eliminating the ponds will add to the amount of browse available to foraging animals while also extinguishing a major water source.

D. Human Values

Presently, the chief use of this area is by local citizens for fishing. All use is restricted by the park, but due to the inability to monitor the area constantly, a few fishermen trespass in order to use the ponds. In the future, the area will be used as a forested background/buffer for the proposed scene restoration on Prospect Hill eliminating most human presence.

III. ANALYSIS OF PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

It is proposed that a three part plan be implemented on the Milstead property with the first step being the dewatering and breaching of both man-made ponds. The second step would require an engineering study to determine the best course of action for restoring the field to a natural forest. The third, and final step, would require a contractor to raise all buildings, remove all evidence of the pond structures and building debris, re-grade, fertilize, seed, and straw. The field would then be allowed to naturally regenerate into forested land.

1. Anticipated Impacts - If this procedure is followed the impact on the area will be minimal compared to the natural destruction of the area due to the bursting of the dams caused by an excess of water and an unstable dam. Many wildland creatures will be affected by the removal of the ponds. The fact that a Great Blue Heron was observed on the lower pond reveals that the area is becoming accepted as a wetland. Draining the ponds will require the removal of the resident fish and a domestic goose, who has made this pond his home for over seven years. Erosion will be a major factor in the reconstruction of the land due to the severity of the slopes on which many of the buildings presently sit. The necessity of heavy machinery on the site will also compact the soil. The impact on the visitors will be minimal, if at all, due to the fairly remote location of the Milstead property. Visually, the work will be buffered by a forest which stands between the heavily visited Prospect Hill and the Milstead property. Visitors will be able to hear the work being done, though it too will be buffered.

see * - prev. pg.

2. Recommendations For Mitigating Measures - To minimize the impact on wildlife, it is recommended that the ponds be drained over a three or four day period. This will allow and encourage the foraging animals to seek another source of water. The resident goose should be removed and relocated as quickly and easily as possible to another pond. The fish must also be netted and transported to another pond or water source. Erosion damage may be minimized by using rubber tired tractors when applicable and by applying straw as soon as possible to help hold down the soil. Visitor disturbance should be limited to the weekdays and the job should be completed with all possible haste.

B. Alternatives

The alternatives previously discussed will have similar impacts to the proposed action, but will vary in degree. Other impacts, which were used for elimination, are explained previously.

C. Relationship Between Short And Long-Term Productivity

This proposal is weighted toward the long-term objective of providing a forested background for the proposed scene restoration on Prospect Hill. If the ponds are repaired within safety limits, the maintenance of the area will consist of yearly checks on the structure's stability, regular maintenance of the spillways and overflows, and extra security measures for unlawful trespassers. Safety is of primary importance to any action taken on the Milstead property. If the ponds are repaired, extra patrol by Park Service law enforcement personnel becomes necessary and mandatory. This is not viable due to the extensiveness of the National Military Park and the shortage of enforcement personnel.

IV. PERSONS, GROUPS, AND GOVERNMENT AGENCIES CONSULTED

Charles Karpowciz, National Park Service Dam Safety Coordinator, WASO
Chris Ludwig, Virginia National Heritage Association
John Karish, Chief Scientist, Mid-Atlantic Region
Ron Wisnewski, Soil Conservation Service
Gary Fraser, U. S. Fish and Wildlife Service

V. PARTICIPATING STAFF

John Perez, Resource Management Specialist, FRSP
Victoria Reifenberg, Resource Management Ranger, FRSP

VI. SUMMARY

This proposal will eliminate two potentially dangerous dams and provide a forested area for the background of a proposed scene restoration on Prospect Hill. The overall impacts will be moderate but short term.

APPENDICES

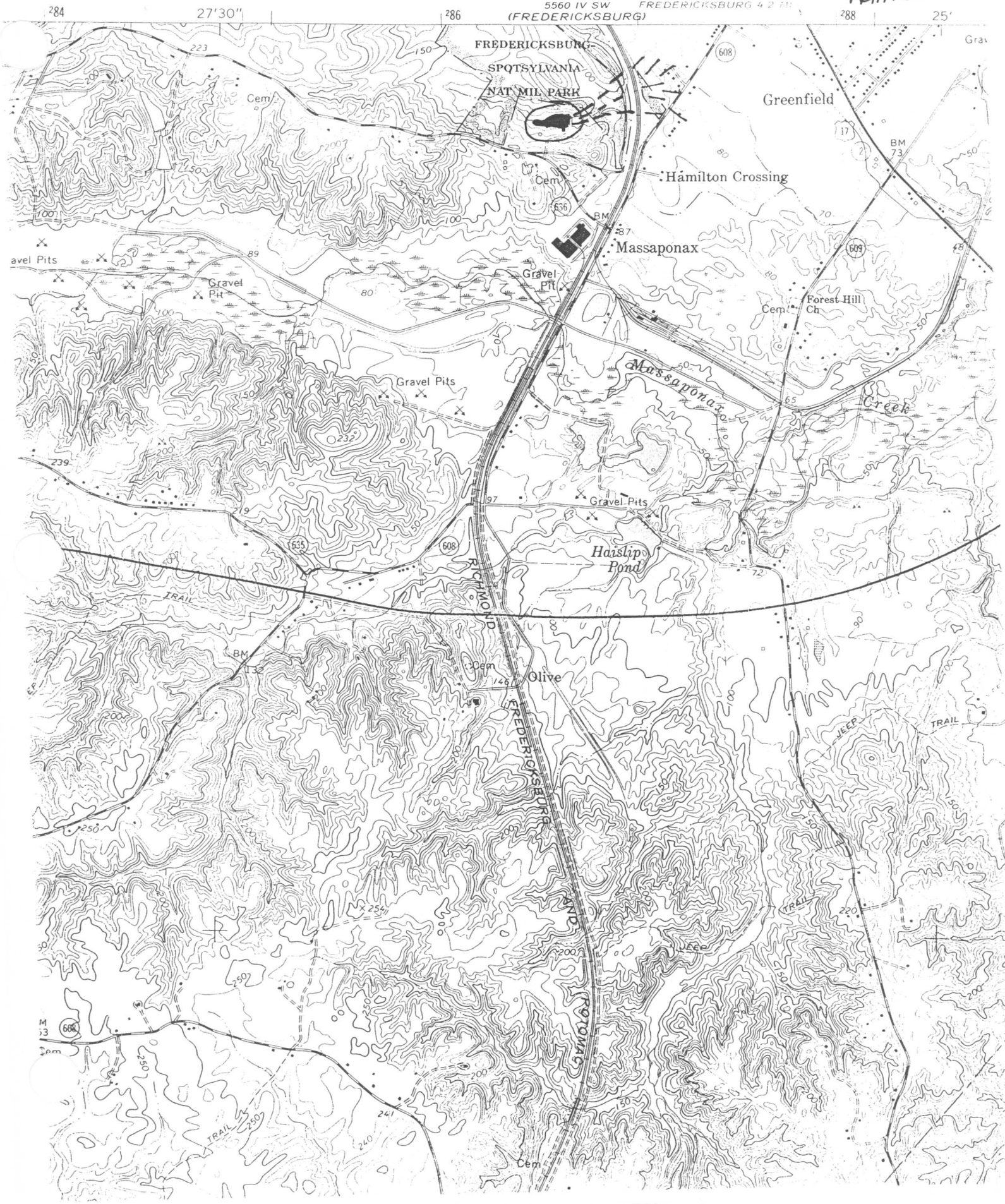
APPENDIX 1: Topographical Map of Milstead Farm

Water flow (uncontrolled)

R F and P Railroad

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

5560 IV SW FREDERICKSBURG 4.2 NE
(FREDERICKSBURG)



FREDERICKSBURG AND SPOTSYLVANIA NATIONAL MILITARY PARK

June 1991

Record of Decision

and

Finding of No Significant Impact

Milstead Ponds Dam Deactivation

Submitted by: Maria Burks 5/30/91

Maria Burks, Superintendent — Date

Approved by: _____ _____

James W. Coleman, Jr., Regional Director — Date

The park proposes to restore the Milstead property from the present day open farm containing two man-made ponds, to a natural forest in order to provide a background to a proposed scene restoration encompassing Prospect Hill, Fredericksburg Battlefield. The following information will provide you with the rationale used, and the consultations performed, to determine the strategy the park will use in completing the restoration project. Paramount to the restoration of the farmland, the two existing farm ponds must be systematically breached and removed due to the eminent danger of uncontrolled breaching and the subsequent danger to the park and to the RF&P Railroad. Both dams have been classified as seriously deficient according to the Service's inventory of dams.

BACKGROUND

The Milstead property was purchased by the Service in 1985, in order to extend the boundary and protect Civil War history. Recently a number of "hut" sites were located on the property by the park's Cultural Resource Management Specialist. The purchase of the property fulfills the purpose stated in the General Management Plan, approved August 26, 1986. The plan calls for "re-establishing many of the historic open areas..." and added that "...all of the areas that will undergo scene restoration are not only sites that were open in the 1860's, but also sites important for...public understanding."

The farm ponds will be breached and drained in order to reduce the risk of uncontrolled breaching and the subsequent damage to park resources and the adjacent RF&P Railroad. The dams have been declared "seriously deficient" and pose an immediate threat that must be taken into consideration and acted upon soon. Removing the dams and therefore ponds, also complies with Department of Interior policy, specifically NPS-40. NPS-40 (p.1-1) states that "all non-essential dams and appurtenant works should be dewatered and removed in an environmentally sound manner."

PROPOSAL

To instigate a three part plan of action in order to restore the Milstead property to represent the land as it was during the Civil War.

The three step plan is as follows:

1. Lower pond levels and breach dams
2. Engineering Study
3. Raise buildings, regrade, reseed, straw, and reforest

Step 1 calls for the immediate lowering of the water levels in the two ponds and breaching of the dams. Due to the serious condition of the dams, this step will be completed as expediently as possible. Following the dewatering and breaching, an engineering study will be conducted to determine the best course of action for step 3. Step 3 will be completed within one year of dewatering the ponds. A contractor will remove all concrete from the lower pond dam, drain, regrade both the upper and lower dams, remove all remaining debris, reseed, straw, and leave the ponds to naturally reforest.

CONSULTATION

Consultation has been completed with the following offices and individuals:

Charles Karpowciz, NPS Dam Safety Coordinator
Chris Ludwig, Virginia Natural Heritage Program
John Karish, Chief Scientist, Mid-Atlantic Region
Ron Wisnewski, Soil Conservation Service
Gary Fraser, U.S. Fisheries and Wildlife Service

FINDINGS OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment and the rationale of the decision above, I find that the Milstead Ponds Dam Deactivation is not a major Federal action significantly affecting the quality of the human environment under Section 102 (2)(c) of the National Environmental Policy Act of 1969. The action to be taken in connection with this proposal is consistent with the objectives and polices of that act.

The impact of implementing this scene restoration does not appear to be highly controversial. The project does not commit the National Park Service to specific future actions that will constitute a significant or controversial impact. The impact of the proposal is not of a cumulative nature either in itself or in conjunction with the other Federal or non-Federal projects. Therefore, pursuant to Section 102 (2)(c) of the Environmental Quality and National Park Service Guidelines, the proposal herein does not require the preparation of an Environmental Impact Statement.

United States Department of the Interior

NATIONAL PARK SERVICE
Mid-Atlantic Region
143 South Third Street
Philadelphia, PA 19106

IN REPLY REFER TO:

APR 09 1993

L32(MAR-PD)

Memorandum

To: Superintendent, Fredericksburg and Spotsylvania NMP

From: Regional Director, MAR

Subject: 1993 Environmental Assessment/FONSI for 1993 Gypsy Moth Suppressions Program, Fredericksburg and Spotsylvania

We have reviewed the subject document and enclose for your files the signed Finding of No Significant Impact.

John J. Reynolds

Enclosure

ENVIRONMENTAL ASSESSMENT

1993 GYPSY MOTH SUPPRESSION PROJECT

FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK

MID-ATLANTIC REGION

USDI NATIONAL PARK SERVICE

Submitted by: John H. Perez — 3-26-93
John H. Perez
Natural Resource Management Specialist
Date

Reviewed by: [signature] — 3/26/93
Michael K. Johnson
Chief Ranger
Date

Approved by: Maria Burks — 3/26/93
Maria Burks
Superintendent
Date

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I. PURPOSE AND NEED FOR ACTION

A. Introduction

The gypsy moth was inadvertently introduced into New England over a century ago, and since that time the spread of this alien species has been slowly moving south and west. The gypsy moth has been found in localized infestations throughout the United States, with the greatest populations concentrated in the northeast. The advancing front of the moth, now in central Virginia and eastern West Virginia, is progressing southward at a rate of approximately ten miles per year. Because this pest is often carried by wind or vehicles into non-infested areas any location with a suitable habitat is subject to defoliation. The high degree of vehicular visitation coupled with abundant habitat puts Fredericksburg and Spotsylvania National Military Park at an especially high risk.

The National Park Service (NPS) in conjunction with the U.S. Forest Service (USFS) and the Animal and Plant Health Inspection Service (APHIS) began a trapping program the park in 1982. Populations remained relatively low until 1988 when a dramatic increase was noted. Egg mass surveys did not result in any positive finds until 1987 and by 1990 infestations exceeding 20,000/acre were found at Ellwood in Wilderness Battlefield.

To attenuate adverse effects of high gypsy moth populations the park, in response to National Park Service policy and in cooperation with the U.S. Forest service, has undertaken an integrated pest management program for the gypsy moth. This program emphasizes population monitoring to identify critical action thresholds, for which appropriate management activities can be made most effective. Natural controls are to be maximized with environmentally acceptable insecticides being used only when appropriate. Control efforts proposed for 1993 include one ground application of biological controls to 30 trees within 4 acres of the 8,000 acres in the park ownership. Three areas have been defined within the park where populations of the gypsy moth indicate probable defoliation. The areas are represented on the attached maps (Appendix A).

At the present time the primary need for the proposed project is to reduce the impact of the gypsy moth in park development zones. Developed zones include visitor centers and grounds, picnic areas, interpretive waysides, and areas of concentrated visitor use. Defoliation of the forest canopy would result in increased mortality in these trees, predominantly oaks, already subjected to recreation related stress. Increased mortality and trees with poor vigor resulting from defoliation would increase hazards to public safety.

B. Decision Making

This document has been prepared by the U.S. Department of the Interior, National Park Service. The responsible official is:

Regional Director
Mid-Atlantic Region
National Park Service
143 South Third Street
Philadelphia, Pennsylvania 19106

Pockets of gypsy moth populations have reached densities sufficient to cause forest defoliation within the park. The immediate decision to be made is whether or not to suppress the gypsy moth in the park and if so, by what means. Currently, the areas identified for treatment are not in wetlands or floodplains, and are in the developed zone or other critical protection areas. The growth in gypsy moth populations is expected to be sufficient to cause defoliation throughout the 8,000-acre park in the coming years. The management strategy will be to suppress these populations to protect the historic landscape as described in the park's Gypsy Moth Management Plan.

C. Relationship to Other Decisions

The U.S. Forest Service issued a Final Environmental Impact Statement (FEIS) in 1984, for its "Gypsy Moth Suppression and Eradication Project." This was modified by an addendum in 1985. The FEIS documents the decision by the USDA to provide federal assistance to state or federal agencies attempting to control the gypsy moth.

The preferred alternatives for suppression called for integrated pest management procedures to be used to control the moth population when site-specific analyses indicated a need for action.

This Environmental Assessment is linked to the FEIS, as modified, and documents the site-specific analysis for Fredericksburg and Spotsylvania National Military Park.

D. Project Objectives

As stated in the Gypsy Moth Integrated Pest Management Plan for the Fredericksburg & Spotsylvania National Military Park (Appendix B), the project objectives are to:

1. Mitigate defoliation impacts in identified critical protection areas. These are the areas that contain prime historic scenes, park developments, are the most visible to the visitor, and/or would create a safety hazard if left untreated.

2. To minimize impacts to all cultural and natural resources where defoliation would significantly change species composition or cause irreparable damage.

3. Reduce risks to public health and visitor safety.

4. Develop a cooperative atmosphere with park neighbors and local governments to reduce spread of gypsy moth to uninfested areas in or out of the park.

The proposed project will be considered successful if: (1) 70 percent foliage protection is achieved, as determined by optical bar photography and/or aerial survey, and (2) egg mass densities are reduced to below the threshold of 250 egg masses per acre on land treated in 1993.

E. Biological Evaluations

Monitoring data collected in 1992 served as the basis for identifying treatment areas. These activities included larval band surveys and intensive egg mass surveys. Egg mass surveys in fall are the most accurate method for evaluating the potential for defoliation in the following year. These surveys were performed in conjunction with the U.S. Forest Service. Methods used included both five-minute walks and 1/40th acre surveys.

Monitoring data collected in 1992 is outlined in the USFS gypsy moth 1993 biological evaluation for Fredericksburg & Spotsylvania National Military Park (Appendix C). This, together with defoliation surveys and subsequent recommendations by USFS personnel, forms the primary basis for treatment area selection.

II. ISSUES, CONCERNS AND OPPORTUNITIES

A. Introduction

The National Environmental Policy Act (NEPA) requires that efforts be made to inform and involve the public. It has also been the policy of this park to seek the advice, ideas, and questions of the public when proposed actions may effect the natural or human environment.

Park representatives attended housing association meetings and public meetings held by Stafford and Spotsylvania Counties. Individuals representing active environmental interest groups were contacted and their opinions sought.
In addition, pamphlets and brochures will be made available to the public in the visitor centers.

B. Key Issues, Concerns and Opportunities

During this public contact process we consulted local and national environmental groups, as well as individuals who showed knowledge and expressed concern about the gypsy moth problem. To date, the public has expressed no concern with the use of Bt in the Fredericksburg & Spotsylvania National Military Park. In conversations with individuals on this matter it was stated that because of the past successes of the gypsy moth program, and lack of controversy, they had no substantive comment on this issue. However, this does not deny our concern and attention to issues raised by the public in the past.

III. ALTERNATIVES

A. Process Used to Formulate the Alternatives

Alternatives for gypsy moth suppression were established in accordance with the management objective set for the project. Site-specific information on human habitation; ecologically sensitive areas; rare, threatened or endangered species; location of wetlands and floodplains; and forest composition is available from the Resource Management Branch of the park. National Park Service guidelines and policy for Integrated Pest Management determine the options available for treatment of the gypsy moth.

Three major standards guided the formulation of the alternatives. They are: public comment, legislation and planning documents. The major public concern expressed to this office concerning gypsy moth and proposed control measures was the effect of the moth on trees and tree mortality. A strong message to protect trees was received. Park Legislation mandates the park "...to preserve the present outline of the battlefields.." Two major park planning documents, The General Management Plan and the Resource Management Plan, reflect the legislative order and focus management and planning toward actions that preserve the woodlands and their historic significance.

Coupling the mission of the FRSP with the biological evaluations provided by the US Forest Service on gypsy moth infestation, it was apparent that an alternative that will suppress the gypsy moth must be sought. Tempering this alternative is an NPS policy that suggests Bt as a biological agent in controlling gypsy moth. Therefore, the park is clearly guided to an alternative that protects the forest with the single agent of Bt.

Treatment areas are selected based on an evaluation of: the areas biological potential, value of the resource, and environmental sensitivity in which the gypsy moth is feeding and reproducing. Egg mass and larval surveys are used to delineate infested areas and track the spread of the gypsy moth into previously uninfested areas. Other factors taken into consideration for selection of treatment areas are tree species composition, historic significance, land use, and geographic location.

B. Alternatives Eliminated From Detailed Study

During the process of formulating alternatives, several possible alternatives were eliminated from further study. Most of these alternatives were eliminated because they either failed to meet the objectives of the program or were not feasible for other reasons. These alternatives and the reasons why they were not considered further are listed below:

1. To treat all threatened park properties with broad spectrum insecticides. This approach would have a negative effect on non-target species, as well as being in direct conflict with NPS policy.

2. Use passive or low level Integrated Pest Management techniques that do not require the use of a synthetic biocidal agent, such as parasites, trapping, and pheromone confusion. This alternative was eliminated as ineffective against the high population level of the current infestation.

3. Treat the entire park, 8,000 acres. This alternative was eliminated as excessive and unnecessary.

4. Use of viral insecticide GYPCHEK. This gypsy moth specific insecticide shows tremendous promise in future applications, but production shortages and problems with application technology and tank mix components limits its use.

C. Description of Alternatives Considered in Detail

Alternative 1: No Action

In this alternative, No Action would be taken on the part of the Federal governments to suppress gypsy moth populations on National Park Service property located on the Fredericksburg & Spotsylvania National Military Park in 1993.

This alternative is designed to allow natural forces to operate to control the gypsy moth. In addition, it will demonstrate the effects of not treating to suppress the gypsy moth. This alternative also represents the maximum response to those who oppose treatment of the gypsy moth with chemical insecticides.

Alternative 2: Two Applications of Bt

In this alternative the areas of the park that have an infestation of 250 egg masses per acre or more will be broken into distinct areas. These areas are: park property surrounding the Chancellorsville Visitor Center; junction of Miles Drive and Route 3; and the Ellwood estate.

Sites would be treated with Bt at a rate of 30 BIU (Billion International Units) per acre. Two treatments would be used regardless of weather conditions or the efficacy of the first treatment.

This alternative is designed to assure full application of the biocide while staying within the limits that protect the environment and forest. It would also assume thorough coverage of the infested area.

Alternative 3: One Application of Bt

In this alternative areas of the park with infestations of 250 or greater egg masses per acre will be broken into distinct sites. Single trees within these areas will be sprayed one time from the ground with Bt at a rate of 30 BIU per acre.

This alternative is designed to assure wise use of a biocide in the environment, while protecting the forest. Foliage protection and population reduction may not be as sure as in the previous method due to the solubility of the insecticide in water. However, if precautions are taken with respect to the weather these risks can be minimized.

IV. AFFECTED ENVIRONMENT

A. Host Vegetation

Forest and woodlands are a renewable resource in a state of constant regeneration. This forest is established respectively on sandy loam and sandy clay soils of the Piedmont, and clay and clay loam soils of the Coastal Plain. Dominant tree species include tulip poplar, sweet gum, white and red oak, red maple, beech, mockernut hickory, ash, and sycamore. Scattered groves of Virginia and loblolly pine, black locust, and red cedar are also present. The majority of individual trees are less than 10 inches DBH and overall density ranges from 100 to 600 stem/acre. Common understory trees include American holly, dogwood, spicebush, hornbeam, viburnum, and mountain laurel. Greenbriar, honeysuckle, poison ivy, and lycopodium are common in groundcover.

F. Rare/Endangered Species

The Fish and Wildlife Service of the Department of the Interior was consulted regarding rare and endangered species which may reside in the treatment areas. According to their records, no rare or endangered species reside in or near the proposed treatment areas. It is noted, however, that the small whorled pogonia (Isotria medeoloides), a federally listed endangered plant, has been found in nearby Prince William and Caroline Counties. The potential exists for its presence on the extensive forest lands within the park. A plant listed as "imperiled" due to rarity by the state, Crested Coral-Root (Hexalectri spicata) has been found on park lands. No deleterious effects would be expected from the use of Bt upon these species.

V. ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

A. Mitigation Measures That Apply to Alternatives 2 and 3

Every effort is made to conduct the safest possible project. Procedures, guidelines and other measures can be implemented to mitigate non-target effects in a program such as this.

NPS personnel acting as field crews will be present at each spray site as it is being treated. They will be alert to any problems that may arise, and are equipped with radios to relay information to the spray coordinator.

Visitor safety will also be insured by NPS personnel. Spraying will be done after hours, and signs informing the visitors of the application will be posted.

All loading of insecticides will be monitored by NPS personnel for compliance and to assure proper safety procedures will be followed.

Day to day updates of areas to be treated are provided to Visitor Center personnel in an effort to keep the public informed. Park personnel acting as field crews also will be alert to visitors entering the areas.

B. Biological and Physical Consequences

Alternatives 2 and 3 involve the use of a biological insecticide. A discussion of the environmental effects of the insecticides is followed by a discussion of the biological and physical consequences of implementation of each of the alternatives.

1. Bacillus thuringiensis

Specific environmental effects of Bacillus thuringiensis (Bt) have been discussed in the FEIS. The following is a brief version of the information on Bt.

Bacillus thuringiensis (Bt), used for forest pest suppression, is characterized as largely specific to the Order Lepidoptera. Field potency lasts only a few days and the material must be ingested by the caterpillar in order to have an effect. It is the alkaline pH of the caterpillar intestine which dissolves the Bt spores present in the insecticide formulation and releases the crystalline toxin from these spores. This causes the caterpillar intestine to become hemorrhaged. The insect stops feeding and if the resultant infection of the Bt organism and/or damage to the intestine are sufficiently great, the caterpillar does not resume feeding and dies.

Bt remains effective for 4 to 10 days under normal field conditions. The efficiency of Bt is dependent on weather conditions. The efficiency of Bt is dependent on weather conditions, especially rain. If the Bt is washed off the foliage before larva eat the leaves, Bt will not kill the insects. The effectiveness of Bt is also highly dependent on proper timing of application. The smaller larva (second and third instars) are the most susceptible to Bt. Because of this, there is only about a 2-week optimal treatment window during which application of Bt can be expected to achieve maximum effectiveness.

For the reasons mentioned, there can be a lot of variability in the effectiveness of Bt. If the insecticide is applied at the optimum time and under the optimum weather conditions, the project objectives can be achieved.

Concerns have been expressed regarding the potential of Bt to affect both terrestrial and aquatic invertebrates. Since Bt has been demonstrated to have very low toxicity to vertebrates (see the FEIS p. 68-72), the main concern is with the non-target insects and crustaceans. The specificity of Bt to lepidoptera would preclude the insecticide having effect on aquatic invertebrates, except a few species of lepidoptera endemic to wetlands. Therefore, the only organisms likely to be affected by Bt are lepidoptera larvae feeding on plants within a few days of application. Bt will not affect adult insects.

The remaining concerns about the environmental effects of Bt, center on non-target lepidoptera which would be feeding on plant tissue on which Bt has been deposited during the effective post application period. Since this is also the site and time for feeding by the gypsy moth, this is unavoidable; however minimizing the area treated would also minimize the park-wide impact of the program.

2. Biological and Physical Consequences by Alternative

Alternative 1

Our objective to prevent defoliation would not be accomplished under this alternative. Defoliation would be likely to exceed 50% in wooded areas where the moth population density is high. Mortality to host trees species is likely to occur, thereby affecting the structure and composition of the wildlife habitat. Wildlife species that depend on the climax stage of the forest would loose habitat due to loss of trees.

Dieback and decline of tree crowns and possible mortality would increase the hazard tree numbers, therefore increasing possible danger to the public in areas with dense visitor populations. Sections of the Park may then need to be closed to the public, reducing the opportunities to experience historical trails. Increased dead material on the forest floor would increase the fire hazard of the areas. Also, shade and aesthetics around the visitors center would decrease, due to required tree removal.

Alternative 2

In this alternative the areas of infestation are broken up into discrete sites. Areas showing 250 or greater egg masses per acre are candidates for treatment. These blocks would be treated with Bt at a rate of 30 BIU per acre. A second application will be conducted 3 to 7 days after the first application.

This alternative limits application to those locations of known high infestations. The adverse effect of Bt on non-target species would be limited to these discrete areas.

Escape and refuge would be offered to those species in the spray sites through adjacent unsprayed areas. Those species that feed on caterpillars, such as the cuckoo and tanager, will have escape and refuge areas because of the discrete spray area limitations and should not be seriously affected.

The risk of tree mortality is reduced due to the two applications of biocide. If the one spraying is ineffective because of unpredicted conditions, such as rain or mechanical failure, the opportunity for control is still possible.

Alternative 3

This alternative is similar to Alternative 2 in most respects. However, it provides for one, rather than two applications of Bt. Ground treatment of these individual trees will insure thorough coverage of leaves, and very high foliage protection for each tree. Non-target species mortality will be less, based upon one application.

The efficacy of the application is very dependant on the stage of development of the larvae, weather conditions (precipitation, relative humidity, and wind speed), and foliage development. Careful precautions will be taken to ensure a complete, effective treatment.

C. Risk to Human Health

1. Introduction

The basic information for this risk analysis is taken from Appendices F, H and I of the FEIS. The information presented in those documents is applied to a site specific evaluation of the human health risk associated with the proposed gypsy moth suppression project on the Fredericksburg & Spotsylvania National Military Park. Interested persons should consult the above named documents for more information.

The Park has proposed the use of the insecticide Bt in the 1993 gypsy moth suppression program. The risk to human health must be evaluated for this insecticide. This is accomplished through a three step process in which hazards are identified, possible exposure levels are determined, and the risk to human health is evaluated.

The first step in the risk analysis is to determine the toxicity of each insecticide. Toxicity is the ability of a substance to harm health (FEIS, p. H-4). Heath effects caused by toxic chemicals fall into two groups: threshold and no-threshold responses. In threshold responses, there is a certain amount of the insecticide that can enter the body of most animals and humans without causing any harm. The dividing line between doses that have no effect and those that do is the threshold level. Once the threshold is reached, increased doses will usually increase the intensity and extent of the effects (FEIS, p. H-4). These types of responses are quite predictable and similar in all healthy people.

Animals and people do not show threshold responses until certain doses are exceeded. The highest doses at which the effects are not caused are called no observable effect levels (NOEL). To account for differences in sensitivities between animals and people, NOEL's are reduced by a safety factor (usually 100) to set safe doses for humans. This safety factor is set by the U.S. Environmental Protection Agency (EPA), and varies from one chemical to another depending on how certain they are that the available studies can be applied to humans. This "safe" level is known as the acceptable daily intake (ADI) and represents the maximum dose of the chemical that a person could take everyday of his life without suffering any adverse effects (FEIS, p. H-5 - H-7).

Another parameter evaluated in this type of analysis is the LD-50. This is defined as the one-time or short-term dose that will kill 50 percent of the test animal. An oral LD-50 is the lethal dose from swallowing a substance, and the dermal LD-50 is the lethal dose on unbroken skin. LD-50s are usually determined in milligrams of the substance per kilogram of the body weight of the test animal (FEIS, p. H-7).

With non-threshold responses, any dose might set off a reaction, but there is no certainty that it will do so. There will be an effect only if the chemical successfully invades the body and reaches certain strategic points, such as the DNA in human cells. It is possible for a large dose of the substance to enter a person's body without having any effect at all. But the greater the lifetime dose, the greater the odds of seeing these effects. The primary concern with non-threshold effects is cancer risk. Hazard assessments for cancer risks have two steps. The first is to determine if the chemical could cause cancer. The second step is to find the odds of contracting cancer from different doses. Since there are no known cases of human cancer being caused by the insecticide proposed for use in this project, data on animals is used. Where there is evidence that a substance might cause cancer, a mathematical model is used to determine its cancer potency (FEIS, p. H-9).

The results of this human health analysis will be used to determine the health risks to people who might be exposed to insecticide during the course of this proposed project. For threshold effects, the potential exposures will be considered to be within an acceptable margin of safety if the ADI is not exceeded. For non-threshold effects, this project will be considered to be within an acceptable margin of safety if cancer risk is less than 1 in 1 million.

2. Hazard Analysis

Three incidents of human infection from Bt have been reported. In one case, a laboratory technician accidentally stuck a Bt contaminated needle into his finger, which caused a skin infection. The variety of Bt that caused this infection is not the variety that is used in gypsy moth suppression. The second reported case involved Bt that was splashed into the eye of a farmworker resulting in an eye ulcer (FEIS, p. 68). The third incident was reported in the fall of 1987 and involved three members of a Kansas City, Missouri family who became ill after eating honey received from a Maine retail establishment. Their illness was characterized by vomiting and diarrhea which resolved itself after 18 hours. Analysis of the honey at the University of Missouri at Kansas City tentatively identified the causal agent as Bacillus cereus, a common diarrhea causing organism.

The Center for Disease Control in Atlanta, Georgia, examined the isolate for confirmation and identified it as B. thuringiensis rather than B. cereus. The CDC feels, from an epidemiological standpoint, there is insufficient evidence to implicate Bt as the cause for this food poisoning nor is there any need to curtail the use of Bt in gypsy moth suppression programs (Hoover, 1987).

The Food and Drug Administration has concurrently been testing commercial Bt formulations on monkeys in the laboratory. To date, 9 of 11 products tested have elaborated the diarrhea-producing enterotoxin associated with B. cereus food poisoning. An article is scheduled for publication in the Journal of Food Protection which will elaborate on the results of this study.

The Ministry of Natural Resources in Ontario, Canada temporarily suspended Bt spraying during 1987 when it was discovered that its stock of Bt insecticide was contaminated with unexpectedly high levels of Streptococcus faecium and S. faecalis. Spraying was resumed after Health and Welfare Canada determined that the contamination posed no concerns in terms of adverse health effects (Lambert, 1987). However, as a result the Eastern Spruce Budworm Council has requested that Agriculture Canada and Health and Welfare Canada jointly establish national standards of biological purity for registered and experimental Bt preparations (Paille, 1987). It has been recommended that the USDA-Forest Service pursue the establishment of similar standards through the U.S. Environmental Protection Agency.

VI. IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

In order to plan and implement a suppression project such as this, some resources must be committed to it. The primary irretrievable resources are the human resource of manpower and money. Money, in addition to paying salaries of federal employees, is used to hire an application contractor, who in turn must spend money to purchase other resources such as gasoline, oil, insecticides, etc.

Expenditures can be grouped into three categories: survey, planning, and implementation. Regardless of the size of the suppression program, survey activities remain the same. Time spent in planning is dependent on the size of the program. Implementation expenditures are affected by the magnitude of the planned suppression program and the cost of the aerial application contract.

Alternative 1 requires expenditures for survey only.

Alternative 2 involves survey, planning and implementing a suppression program. Due to the limited size of this program, planning would require considerably more time than implementation. Actual implementation of the suppression project should take no more than 7 to 10 days.

Alternative 3 is the same as the previous alternative, with one exception. Actual implementation of this project, with no unforseen complications, would take one day.

VII. PUBLIC INVOLVEMENT AND PARTICIPATION

Public involvement and participation is necessary to conduct a successful suppression program. The park endeavored to inform the public about this program through: public notices in papers of general circulation; participation in public meetings held by adjacent jurisdictions: Stafford County, Spotsylvania County, and City of Fredericksburg; personal contact with organizations active in the park and environmental issues: Virginia Society of Ornithology, Virginia Natural Heritage Program, and Friends of the Rappahannock.

VIII. LIST OF PERSONS AND AGENCIES CONSULTED

Dean Cumbia, Area Forester, Virginia Division of Forestry, Spotsylvania, Virginia.

Patricia Sellers, Entomologist, Forest Pest Management, U.S. Forest Service, Harrisonburg, Virginia

Cheri Gilcrest, Gypsy Moth Coordinator, Stafford County, Virginia

John Grey, VPI Cooperative Extension Agent, Stafford County, Virginia.

Dave Reynolds, IPM Coordinator, National Park Service, Mid-Atlantic Region, Philadelphia, Pennsylvania.

Dave Robison, Entomologist, Forest Pest Management, U.S. Forest Service, Asheville, North Carolina.

Ray Simms, VPI Cooperative Extension Agent, Spotsylvania County, Virginia.

IX. LIST OF PREPARERS

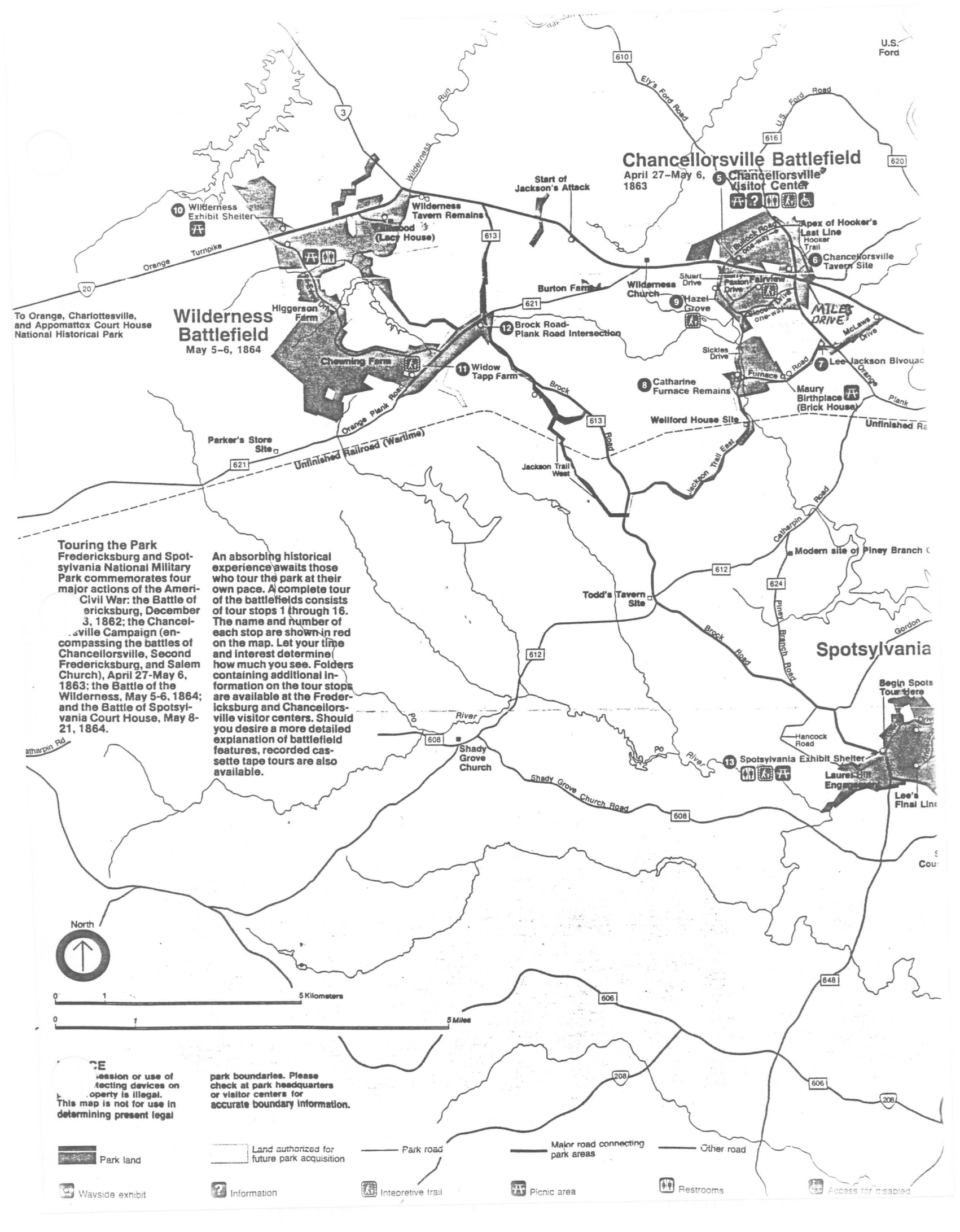
John H. Perez, Natural Resource Management Specialist, National Park Service, Fredericksburg and Spotsylvania National Military Park, Fredericksburg, Virginia

Kimberly A. Nesci, Resource Management Technician, National Park Service, Fredericksburg and Spotsylvania National Military Park, Fredericksburg, Virginia

APPENDIX A

SPRAY BLOCKS - FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK
1993

Chancellorsville Battlefield	
Visitors Center	3.0 acres
Junction of Miles Drive and Route 3	.5 acres
Wilderness Battlefield	
Ellwood Estate	.5 acres
TOTAL	**4.0 ACRES**



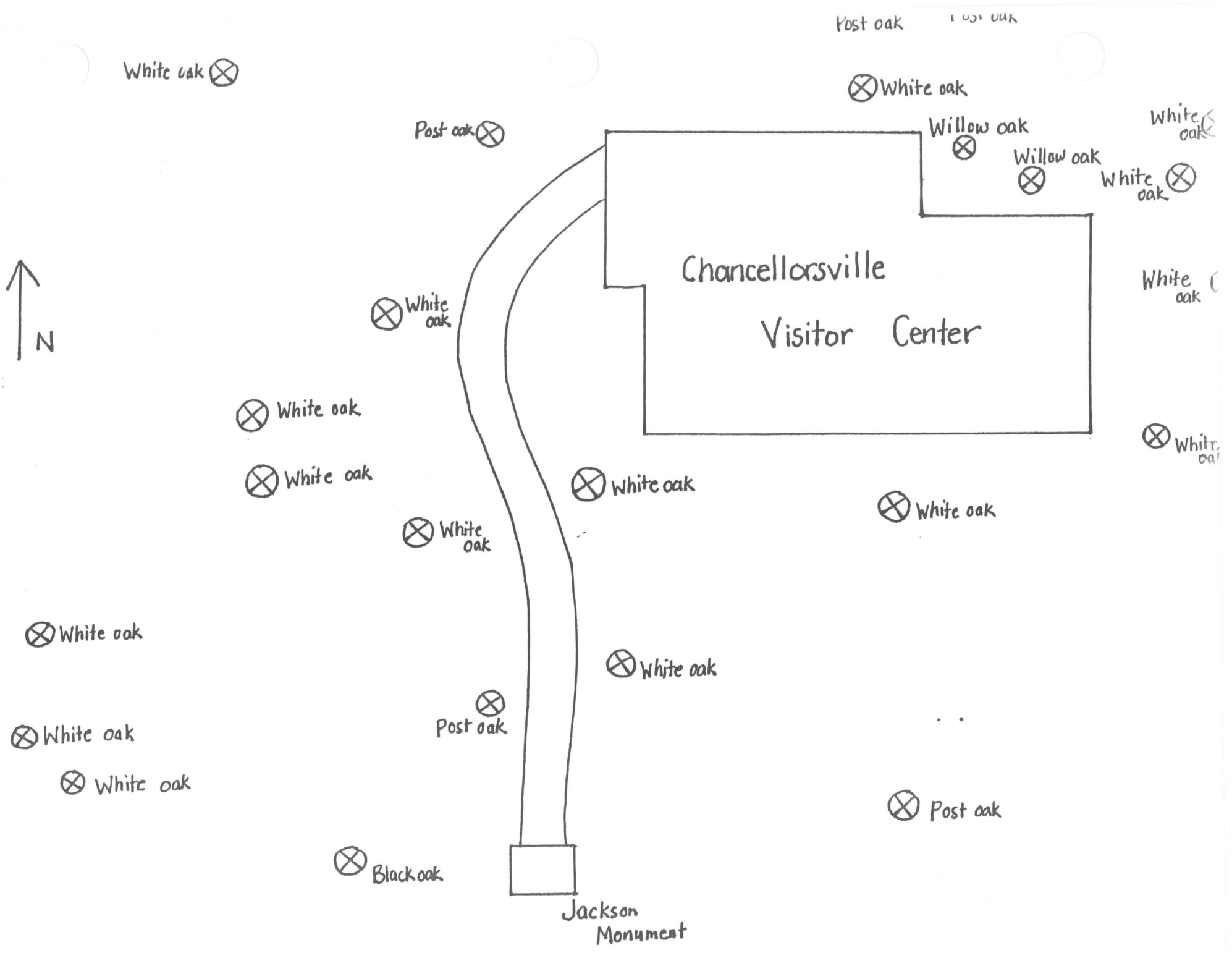
Touring the Park

Fredericksburg and Spotsylvania National Military Park commemorates four major actions of the Ameri- Civil War: the Battle of ericksburg, December 3, 1862; the Chancel- sville Campaign (encompassing the battles of Chancellorsville, Second Fredericksburg, and Salem Church), April 27-May 6, 1863; the Battle of the Wilderness, May 5-6, 1864; and the Battle of Spotsylvania Court House, May 8-21, 1864.

An absorbing historical experience awaits those who tour the park at their own pace. A complete tour of the battlefields consists of tour stops 1 through 16. The name and number of each stop are shown in red on the map. Let your time and interest determine how much you see. Folders containing additional information on the tour stops are available at the Fredericksburg and Chancellorsville visitor centers. Should you desire a more detailed explanation of battlefield features, recorded cassette tape tours are also available.

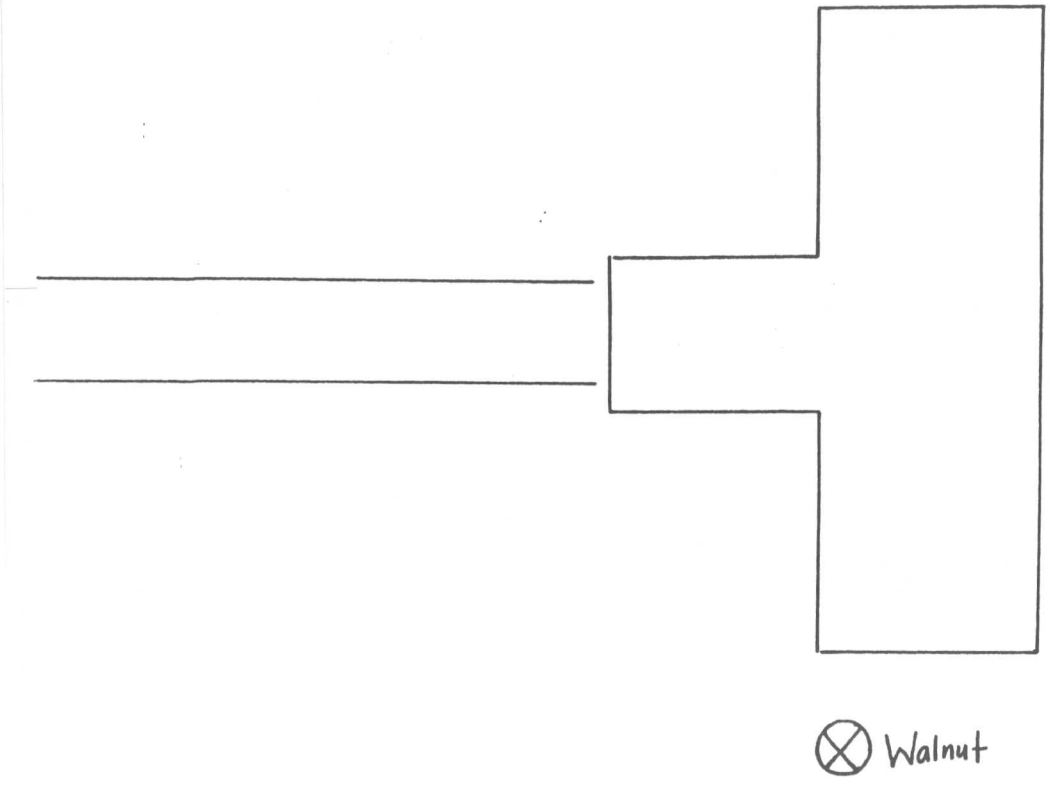
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ession or use of tecting devices on operty is illegal. This map is not for use in determining present legal park boundaries. Please check at park headquarters or visitor centers for accurate boundary information.

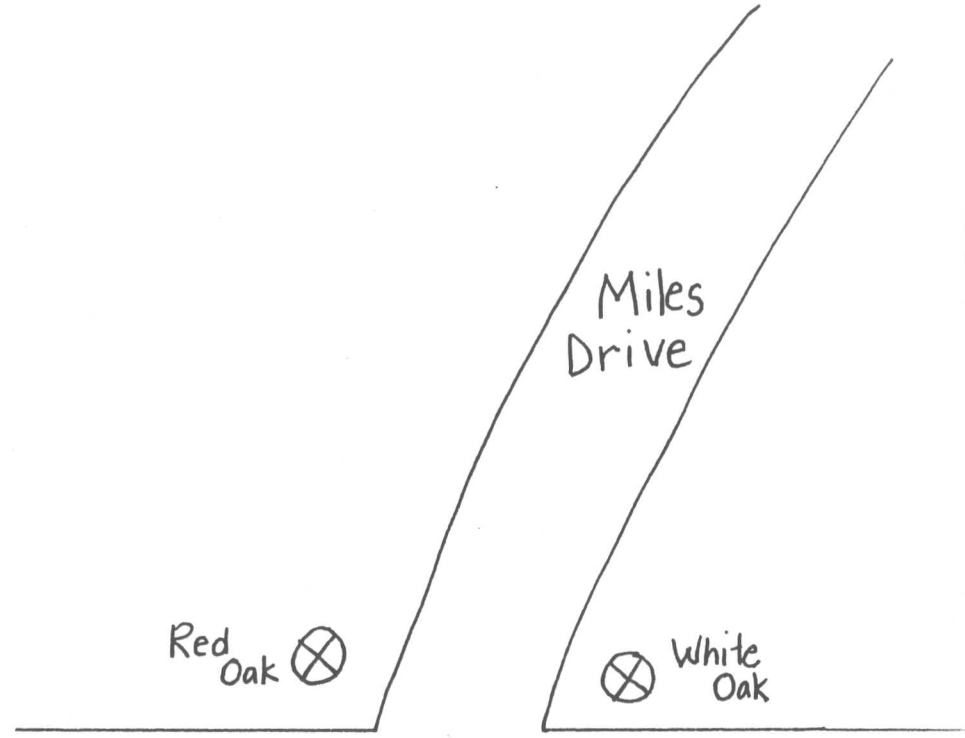

Post oak
White oak
White oak
Post oak
Willow oak
Willow oak
White oak
White oak
N
Chancellorsville
Visitor Center
White oak
White oak
White oak
White oak
White oak
White oak
White oak
White oak
White oak
Post oak
White oak
White oak
Post oak
Black oak
Jackson
Monument

Route 3

Hillwood Estate



N



N

APPENDIX B

APPENDIX C

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I. SIGNIFICANCE OF THE RESOURCE

Fredericksburg and Spotsylvania National Military Park is a 8,000-acre unit of the National Park Service in Central Virginia, which commemorates four major battles of the Civil War. The land preserved within it has often been cited with the dubious distinction of being "the bloodiest ground on the continent." The forest and fields that comprise this historic landscape were witness to over 100,000 casualties. This historic setting attracts over 1.7 million visitors each year.

Preserving an historic pattern of fields and forests is fundamental to an understanding of the events that occurred on these battlefields. In addition, there is a need to retain healthy vegetation along boundaries to maintain visual and auditory buffers from modern intrusions. In this vicinity, natural areas are rapidly being lost due to development. This has resulted in a fragmentation of natural communities and therefore increases the value of the natural resources found within these protected areas.

Chancellorsville, Wilderness, and Spotsylvania contain significant examples of eastern piedmont forest in various stages of succession, including stands of trees extant at the historical period. The battle for Fredericksburg occurred along the ridge that forms the fall line separating the Piedmont from the Coastal Plain.

Native flora and fauna are abundant within the four major units that comprise the park. Sensitive plant species have been identified. Several plant species found within the park are at the extreme of their distribution. Common wildlife species include white-tail deer, beaver, fox, and wild turkey. Black bear and bobcat sightings have also been reported on rare occasions. Birdwatching is a pastime enjoyed by many visitors.

II. HISTORY OF GYPSY MOTH IN THE PARK

The first discovery of a male moth in the vicinity of the park occurred in 1980. The USDA Animal and Plant Health Inspection Service (APHIS) initiated a monitoring effort in conjunction with park management by placing 42 pheromone traps to detect the presence of male moths in 1982. Less than 50 moths were found at this time.

In 1983, the U.S. Forest Service became involved with the first surveys for egg masses and overall coordination of monitoring efforts. Egg mass survey and pheromone trap counts remained relatively low until 1988 when a dramatic increase was noted. Appendix II details monitoring efforts conducted thus far.

Results of the 1992 ground survey show decreasing gypsy moth populations in most areas of the Park, except in the Chancellorsville Battlefield Area, and in a local infestation on the Wilderness Battlefield. Although egg masses were not as numerous in most of the areas surveyed as they were in 1991, there is still a potential for a rapidly increasing population on the Park, as well as on surrounding private lands.

Two separate applications of Bt were applied on 298 acres at the Chancellorsville Battlefield with a spot treatment at Ellwood on May 4 and May 11, 1992. The treatment was made using a Bell 206 helicopter and at a rate of 16-30 BIU's (Billion International Units) per acre in total mix of .5 gallons per acre. This was the third year this area has been aerially treated.

Populations in the aerial treatment area at the Chancellorsville Battlefield Visitor Center were still high, at more than 6,000 egg masses per acre, but foliage protection was achieved with the two treatments of Bt and the high populations were limited to the vicinity of the visitor center. However, unless this area is treated again in 1993, severe defoliation will occur in the large oaks around the visitor center.

The treatment prevented serious defoliation over most of the spray block. Use of Bt will generally protect the foliage during the year of treatment but does not always reduce the population, therefore, subsequent treatments may be necessary in high value areas.

III. MANAGEMENT CONCERNS

A. Park Resources:

Approximately 83% of the park is forested, most which consists of a hardwood or mixed pine-hardwood overstory. The majority of the trees in these stands would be defoliated if populations are allowed to reach high levels without abatement. Nearly total defoliation would occur in some locations at peak levels. Many mature oak trees which date to the historic period could die from repeated defoliation in conjunction with other stress factors such as drought. The resulting mortality would increase both the fuel loading, which is already excessive in many areas of the park, and the temperature of the forest by allowing more solar radiation. The threat of wildfire would therefore be made more probable. Increased runoff might occur if mortality is high enough and stream degradation would result. Aquatic flora and fauna would be effected by changes in turbidity, water chemistry and temperature. Terrestrial fauna would be affected by changes in food availability and habitat.

B. Historic Landscape:

The historic landscape preserved at the various units of the park are treated as cultural resources. Many of the tree stands present now were extant during the Civil War and contain individual specimen trees that witnessed the battles. There is also a need for maintaining a healthy vegetative buffer to screen out modern intrusions.

C. Endangered Species:

There are no federally listed endangered species known to exist within the park. However, exhaustive surveys have not been performed. The federally listed endangered plant, small whorled pogonia (Isotria meloides) has been documented in nearby Caroline and Prince William counties. Crested coralroot, (Hexalectris spicata) a plant listed by the state as "imperiled" due to rarity, has been found in the park. Also, two populations of the state listed rare red milkweed (Asclepias rubra) have been found. Massive defoliation would increase insolation and the temperature of the forest floor which may produce deleterious effects on populations that exist.

D. Aesthetics/Socioeconomics:

Visitors will find the park very unappealing during spring when caterpillar populations are at their peak. When gypsy moth populations are high, visitors will hear, smell, and see caterpillars. The frass (excrement) can be particularly annoying. Late stage larvae feed continuously, resulting in a steady rain of frass. When populations get very large, a viral disease usually causes a crash in the population. However, this usually occurs only after severe defoliation has taken place. The resulting forest would be much hotter and more uncomfortable. Tree mortality in high visitor use areas would increase safety hazards to the public. Negative public opinion would be fostered in adjacent residential communities if no action is taken.

IV. MANAGEMENT OBJECTIVES

The primary objectives of this plan are to:

A. Mitigate defoliation impacts in identified critical protection areas. These are the areas that contain prime historic scenes, park developments, are the most visible to the visitor, and/or would create a safety hazard if left untreated.

B. To minimize impacts to all cultural and natural resources where defoliation would significantly change species composition or cause irreparable damage.

C. To utilize an integrated pest management approach (IPM) in all attempts to control the gypsy moth population. All treatments will avoid adverse impacts to the park's natural environment and will have minimal impacts on non-target species. Actions will be geared towards managing the population at a tolerable threshold kept in check by natural forces, such as predators and parasites.

D. Reduce risks to public health and visitor safety.

E. Develop a cooperative atmosphere with park neighbors and local governments to reduce spread of gypsy moth to uninfested areas in or out of the park.

V. MANAGEMENT ACTIVITIES

In cooperation with the U.S. Forest Service and Mid-Atlantic Regional Office (NPS), Fredericksburg & Spotsylvania National Military Park will maintain the Integrated Pest Management (IPM) program to achieve the major objectives of this plan. Activities under this IPM approach will include survey and monitoring of moth populations, data analysis and decision-making, intervention strategies and tactics, program evaluation, interpretation and public relations.

A. Survey and Monitoring

Surveying park areas and monitoring Gypsy Moths are essential to provide management with current information regarding locations, numbers, and viability of moth populations. Data will be used to determine an appropriate selection of control actions. Without control actions moth populations could expand to the point where IPM measures would be ineffective and chemical treatments, with their negative effects on many non-target species, would be necessary.

Egg mass surveys will be performed throughout the park. These surveys will be coordinated with the Forest Pest Management Branch (FPM) of the U.S.F.S. Both the 1/40th acre fixed radius plot and five-minute walk methods will be utilized during these surveys.

An aerial survey of the park will be performed with the assistance of the FPM branch of the U.S. Forest Service to check for defoliation.

B. Analysis and Decision-Making

The park staff works closely with scientists at local universities and with the U.S. Forest Service to analyze monitoring and decide on intervention measures. Where analysis of data indicates that egg mass counts exceed 250/acre, consultations will focus on determining which, if any, control measures are recommended each year.

The park will also make a concerted effort to cooperate with state and federal agencies in the development of improved methods of gypsy moth control.

Documentation of tree mortality and species composition shifts will be maintained. Monitoring data on population levels will be collected. Long-term evaluation of ecological effects of the moth and suppression efforts should be a goal.

C. Intervention Strategies and Tactics

Bt is a formulation of the bacterium Bacillus thuringiensis that is selectively pathogenic to caterpillars of moths, skippers, and butterflies. It acts as a stomach poison to paralyze the caterpillar gut, thus causing the larvae to cease feeding and eventually die of starvation. Bt is non-chemical and harmless to man, animal and plant life, and to beneficial insects other than the lepidopteran listed above. Although Bt will not immediately reduce larval nuisances, it has proven to be an effective agent for foliage protection, particularly at low to moderate pest population levels. It is usually sprayed aerially but spot ground applications are also practical for selected areas. Aerial Bt applications are excellent for large tract foliage protection and under ideal conditions can produce 75% caterpillar mortality. Spot ground applications to individual trees insure a complete application, and are ideal for this year's populations. Bt is readily available in quantity, and is the pesticide used by many localities and state agencies for use in sensitive areas.

D. Evaluation

The monitoring system in the park will be used to evaluate the effectiveness of treatments. In particular, attention will be given to adult moth and egg mass monitoring data collected in the spray blocks after the applications of Bt. Visual and aerial inspections for defoliation will also be made.

E. Interpretation and Public Relations:

It will be necessary to provide park visitors, neighbors, and the media with accurate and current information concerning Gypsy Moths and NPS management programs. This can best be achieved through well planned interpretive and public relation efforts.

The park's resource management staff and interpreters will play a primary role in providing needed information to park visitors and neighbors. Programs will be developed for use in educating elementary school children in gypsy moth biology and control methods. Bulletin board displays, interpretive talks, publications, and personal contacts will supplement these efforts as appropriate throughout the spring and summer months.

All park employees will be briefed on the gypsy moth program so that basic visitor questions can be answered by maintenance, administrative, ranger and management staffs.

Communications with other federal agencies, county extension offices, and neighboring community organizations will be of mutual benefit.

VI. ENVIRONMENTAL ASSESSMENT

An environmental assessment will be prepared annually for the park which will be included as an appendix to this management plan. This assessment will document a site-specific environmental analysis conducted jointly by the USDI-NPS and the USDA-FS for a cooperatively funded gypsy moth suppression project. The USDA-FS has the major responsibility for forest insect and disease control on all federal lands. Under cooperative agreement between the USFS and the NPS, staff members of the USFS Forest Pest Management office will provide technical assistance and project funding for suppression actions selected by the park superintendent.

The environmental assessment is tiered to the USDA Final Environmental Impact Statement as Supplemented, 1985 (FEIS) and includes a site-specific discussion of:

1. the purpose and need for action;
2. alternatives including the proposed action;
3. affected environment;
4. environmental consequences of the proposed action and alternatives, including the risks to human health;
5. the specific procedures used to facilitate public participation in the decision making process

1993 GYPSY MOTH SUPPRESSION PROJECT
FREDERICKSBURG & SPOTSYLVANIA NATIONAL MILITARY PARK
MID-ATLANTIC REGION
USDI NATIONAL PARK SERVICE

DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT

INTRODUCTION

At the Fredericksburg & Spotsylvania National Military Park, biological monitoring has been conducted aggressively since 1982 when 50 male moths were trapped at Chancellorsville Battlefield. By using intensive monitoring and a variety of management tactics, such as mating disruption, burlap banding, and aerial and ground application of Bt, the Park has limited the spread and impact of the infestation.

The current survey, which was conducted in the fall of 1992 by the USDA Forest Service and Park personnel, found a slight increase in the population in the Chancellorsville and Wilderness Battlefields. Analysis of the egg mass data shows that moderate to heavy defoliation can be expected at Chancellorsville Visitor Center, Ellwood, and the junction of Miles Drive and Route 3

This Environmental Assessment (EA) documents a site-specific environmental analysis conducted by the USDI National Park Service for a gypsy moth suppression project in 1993.

The EA is tiered to the USDA Forest Service's Final Environmental Impact Statement (FEIS) as Supplemented, 1985, the Addendum to the FEIS, and the Record of Decision (ROD) signed February 12, 1986. It includes a site-specific discussion of: (1) the purpose and need for action; (2) issues, concerns, and opportunities; (3) the alternatives; (4) affected environment; (5) environmental consequences of the alternatives, including the risks to human health; and (6) the specific procedures used to facilitate public participation in the decision making process. The USDI National Park Service proposes to treat the infested areas. The decision to be made is whether or not to implement the proposed project and, if so, by what means.

The Fredericksburg & Spotsylvania National Park is mandated to "... to preserve the present outline of the battlefields...". With this clear direction, a decision that supports intervention and control of anything adversely affecting forest health and vigor is required.

At the present time, parts of the Chancellorsville and Wilderness Battlefields are infested with gypsy moth. However, only four acres have been identified as being in danger of defoliation.

The primary objective of the 1993 cooperative suppression project is to prevent tree mortality attributable to defoliation by the gypsy moth. To meet this objective, we must prevent noticeable defoliation (greater than 30%) as determined by optical bar photography and aerial survey conducted by the USFS. The defoliation that exceeds 30% will cause the tree to refoliate. Refoliation is one of the processes which causes the stress that ultimately leads to the death of the tree.

In addition to the prevention of defoliation, our objective is to reduce egg mass densities by 70% to below the threshold of 250 egg masses per acre. The project will be considered successful if retreatment in 1994 is necessary on less than 20% of the land that is to be treated in 1992.

ISSUES, CONCERNS, AND OPPORTUNITIES

Efforts by the park to solicit comments regarding the proposed project resulted in no issues, concerns, or opportunities being identified, even though several of the areas under consideration are close to residential areas (EA, p.3).

ALTERNATIVES CONSIDERED

The primary objective of the project is to prevent tree defoliation in excess of 30 percent. To achieve this goal, seven alternatives were developed. Three of these were eliminated from detailed study because they were not consistent with NPS policy, had adverse environmental impacts, or could not realistically meet the desired objectives. These are (EA, p.4).

1. Treat the 300 acres with a broad spectrum insecticide. The alternative was eliminated by National Park Service Policy.

2. Use of Integrated Pest Management techniques that do not require the use of a biocide agent, such as parasites, trapping, and pheromone confusion. This alternative was eliminated as ineffective against the high population level of the current infestation.

3. Treat the entire park, 8000 acres. This alternative was eliminated as excessive and unnecessary.

4. Use of viral insecticide Gypchek. Production shortages, problems with application technology and tank mix components limits its consideration for this project.

The following three alternative were considered in detail (EA, p. 5-7):

Alternative 1 — No Action

In this alternative, No Action would be taken on the part of the Federal government to suppress gypsy moth populations on National Park Service property located in the Fredericksburg & Spotsylvania National Military Park in 1993.

This alternative is designed to allow natural forces to operate to control the gypsy moth. In addition, it will demonstrate the effects of not treating to suppress the gypsy moth. This alternative also represents the maximum response to those who oppose treatment of the gypsy moth with chemical insecticides.

Alternative 2 — Two Applications of Bt

In this alternative the areas of the areas of the park that have an infestation of 250 egg masses per acre or more will be broken into distinct areas. These areas are: (1) the area surrounding Chancellorsville Visitor Center; (2) Ellwood; (3) the junction of Miles Drive and Route 3.

Individual trees would be spot treated with Bt at a rate of 30 BIU per acre. A second spraying at the same rate would guarantee coverage should the first spraying fail due to unsuspected weather conditions or mechanical failure.

This alternative is designed to assure full application of the biocide while staying within the limits of prudent application to protect the environment and forests.

Alternative 3 — One Application of BT

In this alternative, the areas of the park that have an infestation of 250 egg masses per acre or more will be broken into distinct areas, limiting the acreage to be sprayed. The infested trees at these sites would be sprayed with Bt at a rate of 30 BIU per acre.

It is also designed to assure prudence and care in the use of a biocide in the environment, while protecting the forest. One application of Bt gives less assurance of spray coverage, and there is a possibility of decreased foliage protection. However, ground spraying insures complete coverage of the infested trees, and precautions will be taken with regard to the weather conditions.

SELECTED ALTERNATIVE

Based upon the analysis documented in the EA, the FEIS, and site specific Biological Evaluations, it is our decision to implement Alternative 3. This will involve ground application of Bt to approximately 25-30 trees over 2 acres of Park Land. This IPM approach to suppress destructive gypsy moth populations in Fredericksburg and Spotsylvania Military Parks is compatible with the selected alternative in the FEIS and ROD, in that these insecticidal applications are the only operational IPM component that will meet the objectives identified in the EA (p. 4).

RATIONALE FOR DECISION

The National Park Service is bound by the provisions of the National Environmental Policy Act of 1969 (NEPA), which requires environmental analysis of proposed major Federal actions that may significantly affect the quality of the human environment. This Environmental Analysis has been tiered to the FEIS and documents the site-specific environmental analysis of the gypsy moth situation in Fredericksburg & Spotsylvania NMP. These requirements have been met by the FEIS and ROD, and the development of this site-specific EA. The selected alternative involves the use of an insecticide that is registered for suppressing gypsy moths and which will be applied according to label requirements. This meets the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (7 USC 136) as amended (FIFRA).

Our decision to implement Alternative 3 is based upon compliance with and the authority granted by the Federal laws and regulations previously described and with USDI National Park Service NEPA Guidelines (NPS-12). This project complies with the NPS policy to protect and preserve the historic and natural resources within parks in an effective and ecologically sound manner.

Our decision was made after consideration of the following factors:

Host Vegetation

Implementation of the decision will protect and maintain historically significant woodlots, wildlife, vegetation, and other natural values of the forest of the FRSP. The majority of the overstory vegetation is susceptible to gypsy moth caused defoliation and subsequent tree mortality. The proposed treatments will protect tree foliage and thereby meet the project objectives.

Geography

All of the treatment area is located in the Piedmont with parkland situated on gently rolling hills. The use of Bt will have no adverse impact on aquatic organisms, except possible endemic wetland lepidopteran species.

Human Health Risks

The use of Bt will pose no threat to human health. The public will be notified prior to the planned treatment so that unexpected exposure to Bt can be minimized (EA, p.11).

Non-target Organisms

Implementation of the project will not adversely affect any non-target plant or animal species with the exception of other lepidopteran larvae that may be present at the time of treatment with Bt (EA, p.6).

Rare and Endangered Species

Implementation of this decision will not adversely affect any rare or endangered species.

MITIGATING MEASURES

The selected alternative incorporates the following mitigation measures in addition to those discussed in the FEIS:

1. Signs will be posted around the treatment area, and visitors will not be allowed to enter until the insecticide has dried.

2. Insecticide loading will be monitored by National Park Service employees.

3. Treatment dates will be publicized in the local media and shared specifically with area residents who ask to be notified. This will minimize human exposure to the insecticides.

FINDING OF NO SIGNIFICANT IMPACT

Following review of the FEIS and based on the site specific environmental analysis documented in this Environmental Assessment, we have determined that this decision does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, a revised or amended environmental impact statement is not needed.

The finding of no significant impact was made considering the following factors:

1. The insecticides proposed for use are registered for that intended purpose by the Environmental Protection Agency;

2. Insecticide applications proposed at FRSP comply with EPA label directions, state and federal laws, and USDI National Park Service regulations;

3. The insecticide chosen affects only gypsy moth and other lepidopteran larvae present in the park at the time of spraying;

4. No rare or endangered species that could be affected are known to occur in the proposed treatment blocks, and no significant impacts on native flora or fauna are expected from the proposed project;

5. Bt is extremely safe to use around humans and other mammals. The Virginia Department of Agriculture will also be using Bt on lands near the park and nearby heavily populated city, state, and private lands this spring;

6. The public involvement, public notification, and project monitoring procedures that will be followed and the mitigation measures that will be implemented during the project, will reduce the potential adverse environmental effects on areas treated and will minimize the risk of exposure to individuals visiting and residing in or near areas treated;

7. There are no apparent deleterious effects on the environment;

8. This project is within the scope of the FEIS and the decision announced in the Record of Decision.

Copies of this Decision Notice, EA and FEIS, along with project maps are available for public review at the following offices:

USDI National Park Service
Fredericksburg & Spotsylvania National Military Park
120 Chatham Lane
Fredericksburg, Virginia 22405

USDI National Park Service
Mid-Atlantic Region
143 South Third Street
Philadelphia, Pennsylvania 19106

Implementation of this decision may commence with the signing of this Decision Notice and FONSI by the Regional Office.

Maria Burks — 3/26/93

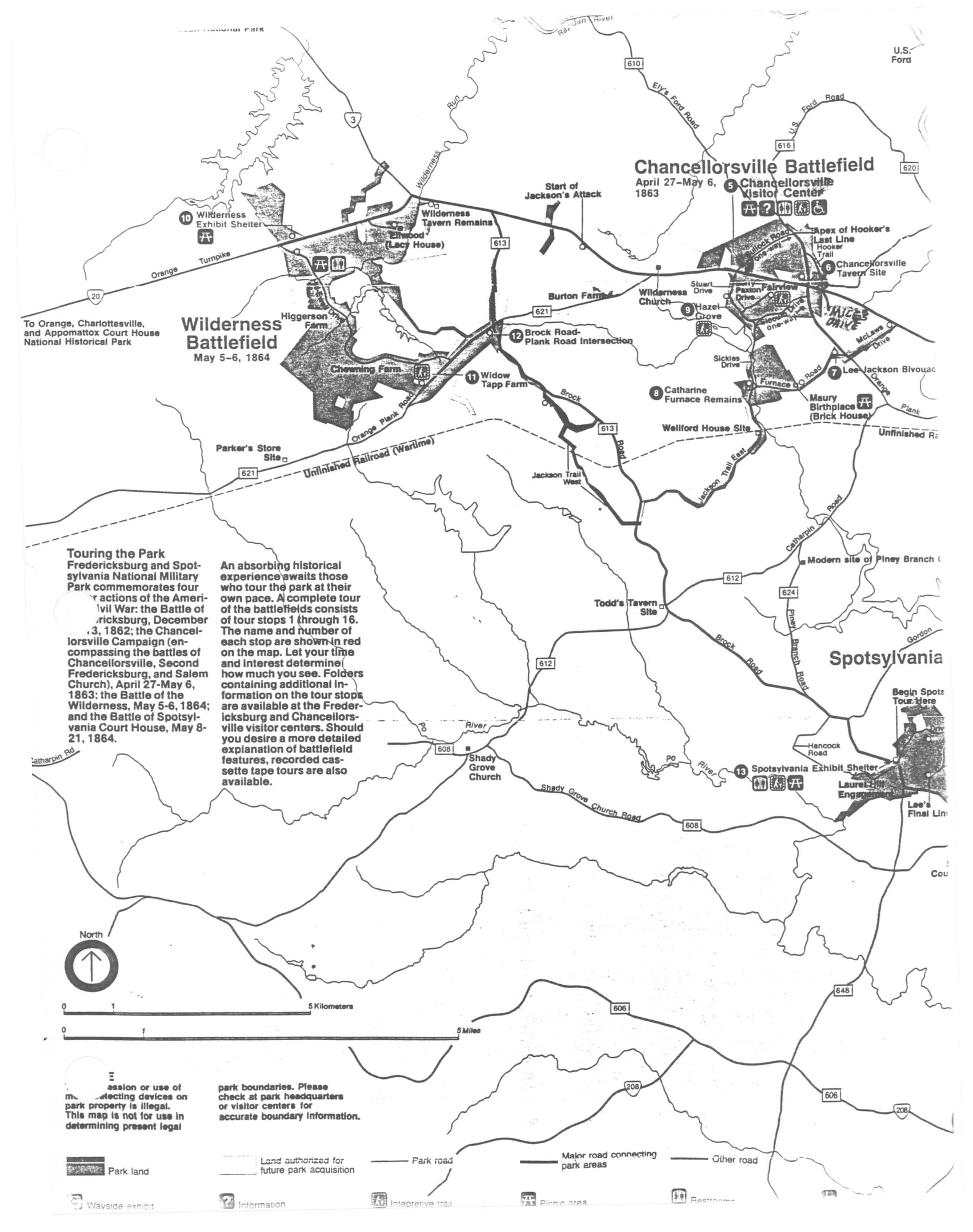
Maria Burks
Fredericksburg & Spotsylvania NMP
USDI National Park Service
120 Chatham Lane
Fredericksburg, Virginia 22405

Date

John Reynolds — 4/9/93

John Reynolds, Regional Director
Mid-Atlantic Region
USDI National Park Service
143 South Third Street
Philadelphia, Pennsylvania 19106

Date

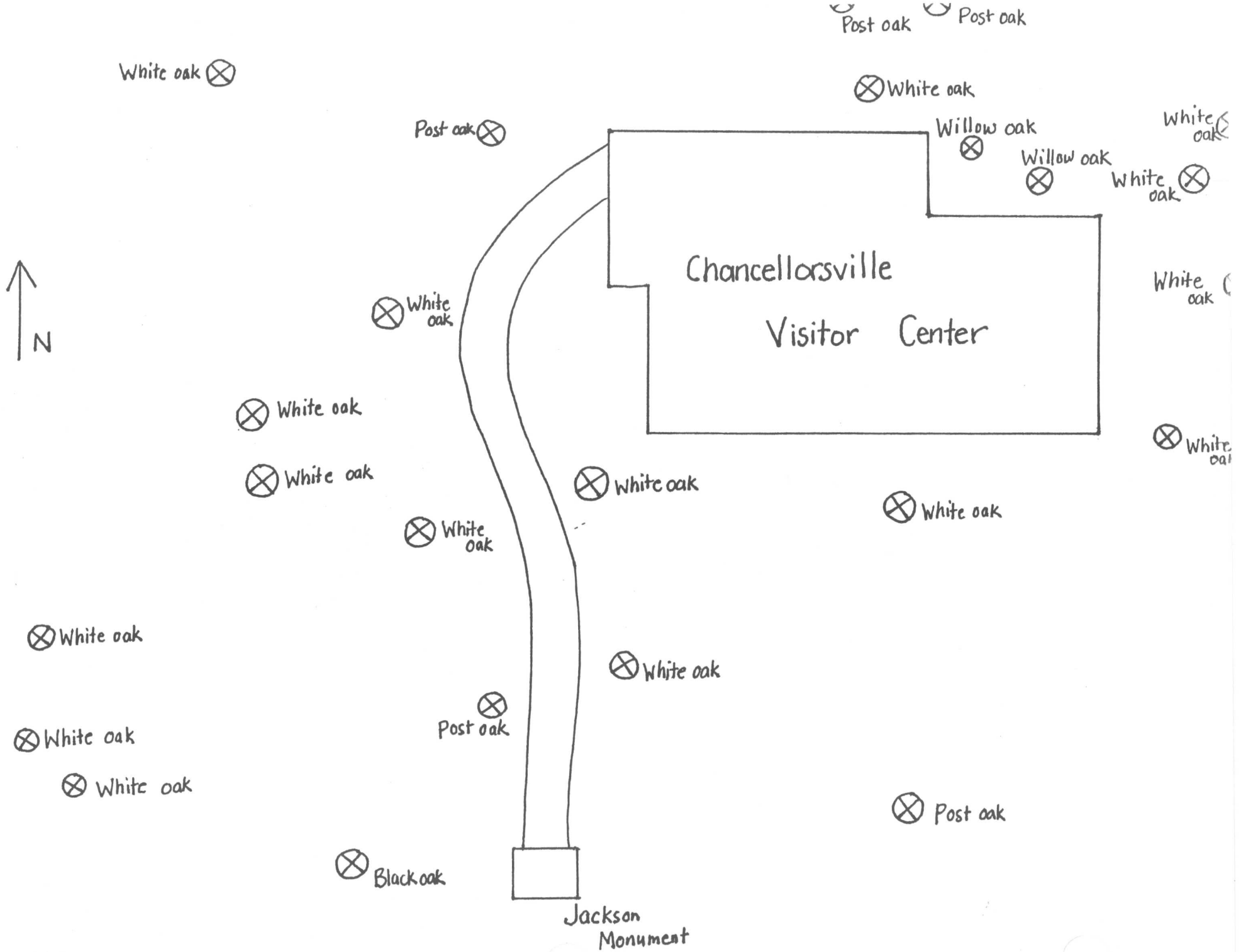


Touring the Park

Fredericksburg and Spotsylvania National Military Park commemorates four ... actions of the American Civil War: the Battle of ...ericksburg, December ...3, 1862; the Chancellorsville Campaign (encompassing the battles of Chancellorsville, Second Fredericksburg, and Salem Church), April 27-May 6, 1863; the Battle of the Wilderness, May 5-6, 1864; and the Battle of Spotsylvania Court House, May 8-21, 1864.

An absorbing historical experience awaits those who tour the park at their own pace. A complete tour of the battlefields consists of tour stops 1 through 16. The name and number of each stop are shown in red on the map. Let your time and interest determine how much you see. Folders containing additional information on the tour stops are available at the Fredericksburg and Chancellorsville visitor centers. Should you desire a more detailed explanation of battlefield features, recorded cassette tape tours are also available.

...ession or use of m... detecting devices on park property is illegal. This map is not for use in determining present legal park boundaries. Please check at park headquarters or visitor centers for accurate boundary information.


Post oak
Post oak
White oak
White oak
Post oak
Willow oak
Willow oak
White oak
White oak
Chancellorsville
Visitor Center
N
White oak
White oak
White oak
White oak
White oak
White oak
White oak
White oak
White oak
White oak
Post oak
Post oak
Black oak
Jackson
Monument

Route 3

Ellwood Estate

