



Roosevelt-Vanderbilt National Historic Sites

TRAILS MASTER PLAN ENVIRONMENTAL ASSESSMENT

June 2012



National Park Service

**Roosevelt-Vanderbilt National Historic Sites
New York**

**Roosevelt-Vanderbilt Trails Master Plan
Environmental Assessment**

June 15, 2012

Roosevelt-Vanderbilt National Historic Sites (the sites) are composed of three separate national historic sites, totaling approximately 1,150 acres of federally owned land, along the east bank of the Hudson River in Hyde Park, New York. These three sites include the Home of Franklin D. Roosevelt National Historic Site, Eleanor Roosevelt National Historic Site (also known as Val-Kill), and the Vanderbilt Mansion National Historic Site. The three sites are managed under a single administrative unit under one superintendent and operate under one staff.

The National Park Service (NPS) is proposing to develop a plan for a comprehensive, well-designed sustainable trail system that provides a variety of visitor experiences uniquely suited to the parks' resources and that supports the purposes for which the parks were established.

This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; regulations of the Council on Environmental Quality (CEQ) (40 CFR 1508.9); and NPS Director's Order (DO) 12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making*.

In this Trails Master Plan Environmental Assessment (plan/EA), the NPS has evaluated a number of options for the proposed action, as described in this plan/EA. A no-action alternative (Alternative A) and an action alternative, the proposed Trails Master Plan (Alternative B), were examined. The NPS has chosen Alternative B, the action alternative, as their preferred alternative.

Implementation of the NPS preferred alternative would result in short-term, minor, adverse impacts on soils and topography and water resources; long-term, negligible, adverse impacts on soils and topography; long-term, negligible to minor, adverse impacts on wetlands and archeological resources; long-term, minor, adverse impacts on water resources and vegetation; long-term, beneficial impacts on visitor use and experience, soils and topography, water resources, wetlands, vegetation, archeological resources, cultural landscapes, and operations and infrastructure.

For Further Information Contact: Dave Hayes, Natural Resource Program Manager
Roosevelt-Vanderbilt National Historic Sites
(845) 229-1521

Note to Reviewers and Respondents:

If you wish to comment on this Environmental Assessment, you may post comments electronically at <http://parkplanning.nps.gov/hofr> or you may mail comments within 30 days to the name and address below. It is the practice of the NPS to make all comments, including names and addresses of respondents who provide that information, available for public review following the conclusion of the National Environmental Policy Act (NEPA) process. Individuals may request that the NPS withhold their name and/or address from public disclosure. If you wish to do this, you must state this prominently at the beginning of your comment. Commenters using the website can make such a request by checking the box “keep my contact information private.” The NPS will honor such requests to the extent allowable by law, but you should be aware that the NPS may still be required to disclose your name and address pursuant to the Freedom of Information Act.

Superintendent
Roosevelt-Vanderbilt National Historic Sites
4007 Albany Post Road
Hyde Park, NY 12538

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ACRONYMS AND ABBREVIATIONS

ADA – Americans with Disabilities Act
ATV – all-terrain vehicle
CEQ – Council on Environmental Quality
CWA – Clean Water Act
CZMA – Coastal Zone Management Act
DO – Director’s Order
EA – Environmental Assessment
EMS – Emergency Medical Service
EPA – Environmental Protection Agency
ESA – Endangered Species Act
FDR – Franklin D. Roosevelt
FTE – full time equivalent
GMP – General Management Plan
MOA – Memorandum of Agreement
MPH – miles per hour
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NHS – National Historic Site
National Register – National Register of Historic Places
NPS – National Park Service
NRCS – Natural Resources Conservation Service
NY – New York
NYDEC – New York Department of Environmental Protection
NYDOT – New York Department of Transportation
PEPC – Planning, Environment and Public Comment
SHPO – State Historic Preservation Officer
the sites - Roosevelt-Vanderbilt National Historic Sites
USFWS – U.S. Fish and Wildlife Service
USGS – United States Geological Survey
UTAP – Universal Trail Assessment Process

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INTRODUCTION: PURPOSE AND NEED

Roosevelt-Vanderbilt National Historic Sites (the sites) are composed of three separate national historic sites, totaling 1,150 acres of federally owned land, along the east bank of the Hudson River in Hyde Park, New York (NY). These three sites include the Home of Franklin D. Roosevelt (FDR) National Historic Site (NHS), Eleanor Roosevelt NHS (also known as Val-Kill), and the Vanderbilt Mansion NHS. The three sites are in close proximity to each other but are not contiguous (figure 1).

The National Park Service (NPS) is proposing to develop a plan for a comprehensive, well-designed sustainable trail system that provides a variety of visitor experiences uniquely suited to the sites' resources and that supports the purposes for which the parks were established.

This Trails Master Plan Environmental Assessment (plan/EA) evaluates two alternatives: a no-action alternative and one action alternative, which is the NPS preferred alternative. The plan/EA further analyzes the potential impacts these alternatives would have on the natural, cultural, and human environment. This document has been prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA); regulations of the Council on Environmental Quality (CEQ) (40 CFR 1508.9); and NPS Director's Order (DO) 12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making*. Compliance with section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) will be conducted separately.

PURPOSE OF AND NEED FOR ACTION

The purpose of the Roosevelt-Vanderbilt National Historic Sites Trails Master Plan is to develop a comprehensive, well-designed and sustainable, multi-modal trail system that provides a variety of visitor experiences uniquely suited to the sites' resources, that supports the purposes for which the sites were established, and to support the goals established in the 2010 General Management Plan (GMP) to provide for public use and enjoyment.

The existing trail system at the Roosevelt-Vanderbilt National Historic Sites comprises over 15 miles of trails throughout the three sites. Trail surfaces along this network vary, from single track primitive hiking trails to wide historic roadways to paved roadways. Use of the trails that are not on site roads is currently limited to pedestrian use. Bicycle use along these roads is currently

prohibited, in accordance with 36 CFR 4.30. As such, bicycle use within the sites is very limited. Some trails that enter the Home of FDR NHS from private property allow mountain bike use outside NPS jurisdiction; however, when users enter NPS jurisdiction, mountain bike use is no longer authorized. This is especially an issue in the Roosevelt Farm and Forest, where a network of mountain bike trails was established on the property prior to NPS acquisition of the land in 2007.

Public roadways and trails outside NPS jurisdiction also provide connections between sites. The primary routes connecting the sites to the surrounding communities and to each other are US Route 9/Albany Post Road (Route 9) and NY State Route 9G (Route 9G). These roads are heavily used with speed limits of 35 to 45 miles per hour (MPH). While there are some sidewalks along Route 9, the sidewalk stops short of travelling the entire distance between the Vanderbilt Mansion NHS and the Home of FDR NHS.

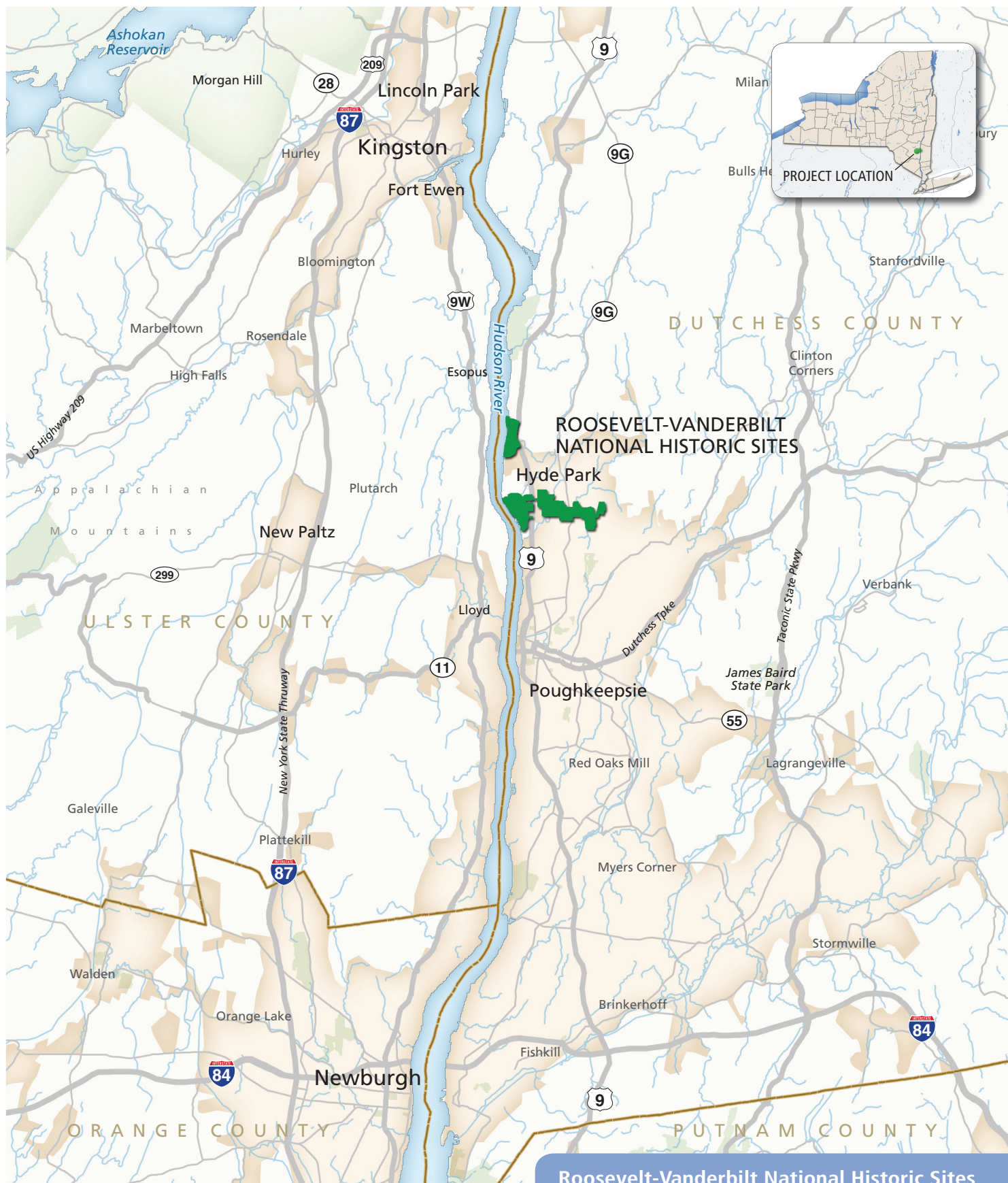
Visitors wishing to access the sites' trail system are currently provided with limited wayfinding information and orientation to the trail system. Trail maps are available at the sites' respective visitor centers, and trail directions and distances are posted at most trail intersections. However, wayfinding at trailheads is limited. Orientation and wayfinding signs located outside the visitor centers are limited to a kiosk at the western terminus of Roosevelt Farm Lane and at the Cove Trail trailhead near the Wallace Center.

Once visitors are travelling along the trail system, interpretive opportunities are currently limited. The kiosk at the western terminus of the Roosevelt Farm Lane provides some background, and the Hyde Park Explorer cell phone tour also provides interpretation at a number of sites; however, there are numerous other opportunities throughout the trail system for additional interpretation, such as FDR's use of Home Drive for rehabilitation activities following his diagnosis with polio.

Combined, the sites receive a total of more than 500,000 visits each year (NPS 2011). The trails are considered to be underutilized and receive less than 10% of the annual visitors as recorded for the sites overall. The survey also found that visitors to the sites tend to be older. Over 44% of visitors are between the ages of 40 and 64, and nearly 36% are above age 65 (NPS 2009).

Based on the purpose and need identified above, the specific objectives for the proposed action are as follows:

- Improve connectivity of trail types while maintaining a range of touring and recreational choices and connections to other local trail networks
- Provide visitors with wayfinding information about and orientation to the trail network that allows comfortable, safe, and easily navigated access to and between sites
- Provide enhanced interpretive opportunities along the trail system so visitors are left with an enhanced understanding of the parks' resources and stories, along with a better understanding of NPS preservation practices
- Attract new generations of visitors who may have greater interest in accessing NPS sites on foot, bike, cross-country skis, or snow-shoes



Roosevelt-Vanderbilt National Historic Sites
Trails Master Plan Environmental Assessment



National Park Service
U.S. Department of the Interior

Roosevelt-Vanderbilt National Historic Sites

Figure 1
Project Location

HISTORY AND SIGNIFICANCE OF ROOSEVELT-VANDERBILT NATIONAL HISTORIC SITES

Home of Franklin D. Roosevelt National Historic Site

President Franklin Delano Roosevelt pledged to donate a portion of his estate for a presidential library and national historic site in 1939, and Congress accepted the pledge. The President carried out the donation for the historic site, which is comprised of his home and 33 adjacent acres, to the American people in 1943. The historic site was expanded through donations and acquisitions and now totals 772 acres of the former 1,522-acre historic Roosevelt Family Estate. Franklin Delano Roosevelt was born at his family's house on the Hudson River and remained connected to the house throughout his life. The main house is the centerpiece of the estate, and it contains objects and furnishings of historical value. This site provides an opportunity for current and future generations to appreciate the legacy of the longest-serving U.S. president who led the nation through the Great Depression and World War II. The estate and adjoining FDR Presidential Library provides the best place to understand the influences that shaped the values and personality of FDR.

Eleanor Roosevelt National Historic Site (Val-Kill)

In 1977, Congress established the Eleanor Roosevelt NHS to preserve Mrs. Roosevelt's cherished home on a 181-acre portion of the Roosevelt Family Estate at Val-Kill. Roosevelt founded Val-Kill Industries at the site, a business which provided new skills and employment opportunities for local unemployed farmers. While residing at Val-Kill, Roosevelt wrote newspaper columns and books, chaired the committee that drafted the Universal Declaration of Human Rights, and served as the first U.S. delegate to the United Nations. FDR purchased the home in 1911 for his wife and friends to enjoy the peace and solitude of the site. Val-Kill Cottage, built in 1926, served as a furniture factory for Val-Kill Industries, run by Roosevelt and her two friends, Nancy Cook and Marion Dickerman. Roosevelt converted the Cottage to her residence in 1936-37, and later, her year-round residence in 1945 after FDR's death. An additional Stone Cottage is located at the estate, built in 1925-26. Roosevelt loved the beauty and tranquility that the site provided, which still endure today. The plantation, known as "The Secret Woods," is said to be where Eleanor Roosevelt read stories to her grandchildren. The Eleanor Roosevelt NHS embodies the very being of Eleanor Roosevelt. In the enabling legislation, Congress authorized the NPS to enter into a cooperative agreement with qualified public and private entities to carry out Roosevelt's legacy and specified that a memorial to Roosevelt be established at Val-Kill. Her beloved Cutting Garden, located on the site, serves as her memorial.

Vanderbilt Mansion National Historic Site

The Vanderbilt Mansion National Historic Site is located three miles north of FDR's home. In 1940, FDR directed the designation of the property as a national historic site, totaling 212 acres. The mansion was created for Frederick W. Vanderbilt, a grandson of the railroad and shipping magnate "Commodore" Cornelius Vanderbilt, and his wife by McKim, Mead, and White architectural firm in 1895. The 50-room house incorporates steel and concrete construction and a centralized heating system. McKim, Mead, and White also designed a neoclassical-style guest house to the north of the mansion. The site is one of the most intact picturesque landscapes on

the Hudson River and provides an evolution of landscape design in America over some 200 years. The Vanderbilts retained most of the landscape as it was planned in 1828 by Andre Parmentier, a Belgian landscape designer. An overlook from the mansion provides a vista up the Hudson Valley, with the Catskill Mountains in the distance.

STUDY AREA

The Roosevelt-Vanderbilt National Historic Sites are located in Hyde Park, NY, a few miles north of Poughkeepsie, along the Hudson River in Dutchess County (figure 1). These sites are part of the rolling landscape bordering the eastern bank of the Hudson River where historically, farms and forests dominated the landscape. Presently, the landscape, especially along the Route 9 corridor is dominated by strip development and residential subdivisions, although some remnants of the historic landscape remain.

The sites are not contiguous and are separated by local roads and other land uses. In addition to commercial and suburban development, the Town of Hyde Park has its town hall and post office along the Route 9 (Albany Post Road) just south of the Vanderbilt Mansion NHS. Two other local recreational areas are located off of the Route 9 corridor, as well. Hackett Hill Park and the Winnakee Nature Preserve are located east of Route 9, between the Roosevelt Vanderbilt NHS and the Roosevelt Farm and Forest. Both of these areas offer hiking, and the Winnakee Nature Preserve offers bicycle trails, as well.

The discontinuous Roosevelt-Vanderbilt National Historic Sites are approximately 1,164 acres total. This total includes the Home of FDR NHS, the Eleanor Roosevelt NHS, and Vanderbilt Mansion NHS. The Home of FDR NHS is can be separated into several distinct areas: the main portion containing most of the historic structures and the Wallace Center (324 acres) located between the Hudson River and Route 9, the Roosevelt Farm and Forest (380 acres) between Routes 9 and 9G, and the two parcels adjacent to Eleanor Roosevelt NHS, including Top Cottage (58 acres). Eleanor Roosevelt NHS is located directly across Route 9G from the Roosevelt Farm and Forest and comprises 176 acres. For simplicity, the two parcels adjacent to Eleanor Roosevelt NHS that are technically part of Home of FDR NHS are discussed with other resources at Eleanor Roosevelt NHS for simplicity. Vanderbilt Mansion NHS is approximately 212 acres in size and is located approximately 1.5 miles north of the Home of FDR NHS, between the Hudson River and Route 9.

The trails at the Roosevelt-Vanderbilt National Historic Sites are both accessed by and connected to each other through the main roadway corridors of Routes 9 and 9G. Visitors using motor vehicles to travel between the sites use these north-south road corridors. The smaller east-west connectors between Routes 9 and 9G include County Route 40A (south of the Roosevelt Farm and Forest) and East Market Street/Route 41 (north of the Roosevelt Farm and Forest, near the entrance to the Vanderbilt Mansion NHS). Forested trails on private land also provide access to the sites for pedestrians. Although the NPS would work with the Town of Hyde Park, the NY Department of Transportation, and other local partners to provide improvements for these connections outside NPS jurisdiction, the plan/EA focuses on those actions taking place within the Roosevelt-Vanderbilt National Historic Sites under primary NPS jurisdiction.

The existing authorized trail system at the Roosevelt-Vanderbilt National Historic sites includes over 15 miles of trails and shared roadway connections. Figure 2 shows an overview of the existing trails. These trails include a variety of allowed uses, depending upon whether or not trails take place on park roads. Unless a trail takes place on a park road, bicycle use is not allowed.

At the Home of FDR site (including the Roosevelt Farm and Forest but excluding Top Cottage Trail), there are a total of 6.4 miles of authorized trails (3 miles at the main home site and 3.4 miles in the Roosevelt Farm and Forest). West of Route 9, the primary trails include the Cove Trail (0.6), the Forest Trail (1.4), and the Meadow Trail (0.4). The 0.3 mile Home Road also serves as a pedestrian route. Across Route 9 in the Roosevelt Farm and Forest, the Roosevelt Farm Lane (1.8 miles) is the only full trail that is open to bicycle use as well as pedestrian use. The Park tram also uses this road, although it is closed to public vehicles. Branching off of the Roosevelt Farm Lane are the Red, Yellow, and Blue Trails (at 0.7, 0.7, and 0.2 miles, respectively). There also are 5.1 miles of unauthorized mountain bike trails branching off of the Roosevelt Farm Land and the Red, Yellow, and Blue Trails in the Roosevelt Farm and Forest.

At the Eleanor Roosevelt NHS, across Route 9G from the Roosevelt Farm and Forest, the main trails are the Top Cottage Trail (1.0 miles) and Eleanor's Walk (0.8 miles).

At the Vanderbilt Mansion NHS, the eastern side of the site is characterized by shared use of the park roads. This includes the road leading to Bard Rock, which visitors use for picnics. Bard Rock serves as an access point to the site from the Hudson River Greenway Water Trail and is occasionally used as such. The two areas of Vanderbilt Mansion NHS where pedestrian use is separate from vehicle use are the Service Road Trail (1.1 miles) along the western edge of the site, and the Garden Trail (0.4 miles).

Lastly, connecting all three sites, the Hyde Park Trail also travels approximately 8.4 miles from Bard Rock at the Vanderbilt Mansion NHS, along River Road, through private land, through the Home of FDR NHS, through the Eleanor Roosevelt NHS, and ending at Top Cottage.

PROJECT BACKGROUND

Previous and related planning studies have been completed for the sites, as well as specific plans for trails of Roosevelt-Vanderbilt National Historic Sites. These plans were reviewed to provide additional information and guidance for development of the proposed action. In addition, internal and public scoping processes were undertaken to allow agencies and interested parties to provide additional information regarding specific portions of the proposed action. The studies used and scoping efforts undertaken are summarized below.

PREVIOUS AND RELATED PLANNING STUDIES

Several plans and studies have informed and contributed to the development of alternatives for improving the Roosevelt-Vanderbilt National Historic Sites trails and the area around them. These include the *Roosevelt-Vanderbilt National Historic Sites General Management Plan* (NPS 2010), the *Roosevelt-Vanderbilt National Historic Sites Draft GMP and Draft Environmental*

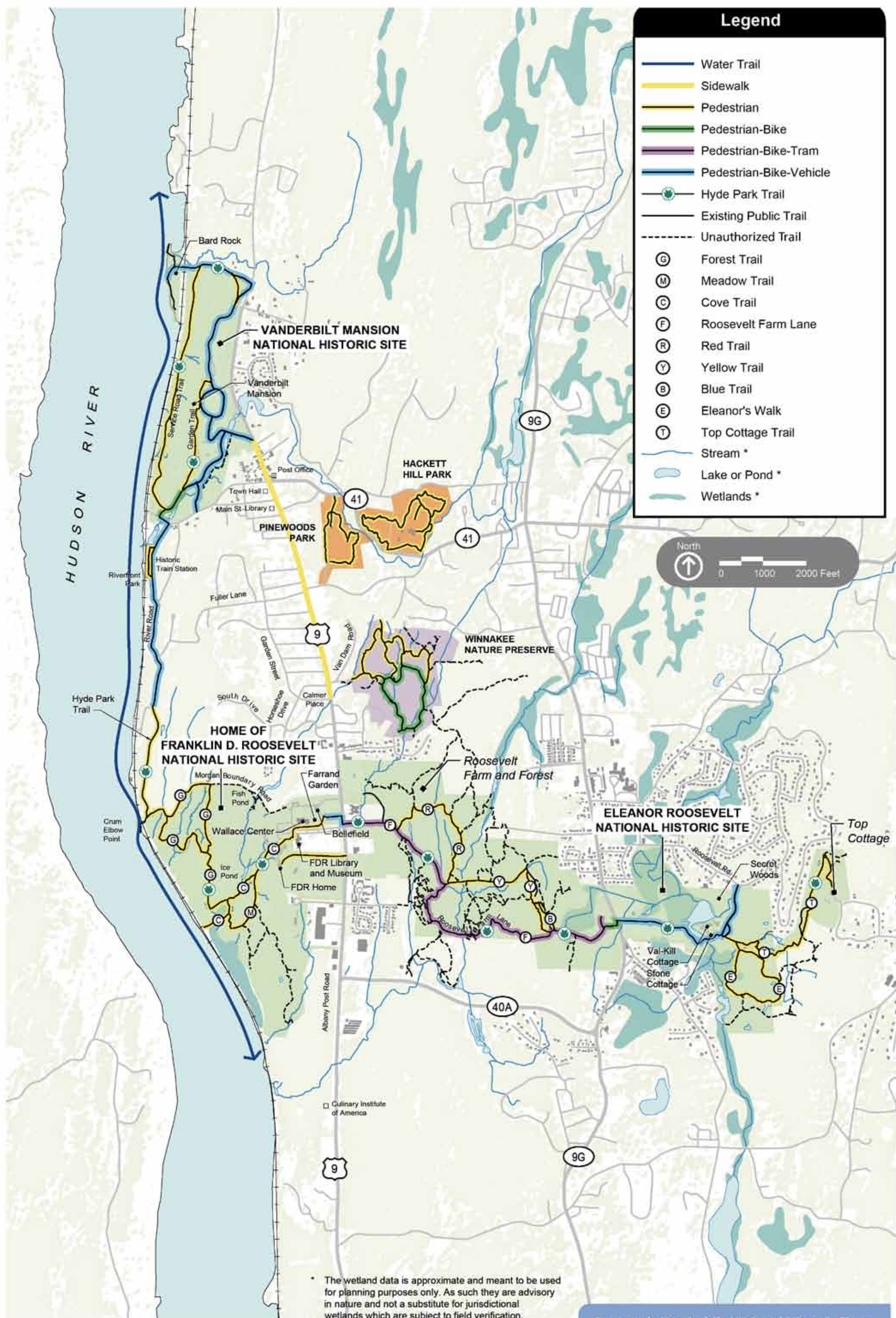
Impact Statement (NPS 2009), and the *Roosevelt-Vanderbilt National Historic Sites Comprehensive Interpretive Plan* (NPS 2004).

The *Roosevelt-Vanderbilt National Historic Sites General Management Plan* (NPS 2010) and the *Roosevelt-Vanderbilt National Historic Sites Draft General Management Plan and Draft Environmental Impact Statement* (NPS 2009) provide guidance for planning and management of the sites, and in the 2009 draft environmental impact statement, a broad overview of the sites' resources is given. This overview of the sites' resources served as a basis for the resource summary provided herein, and the goals set forth as part of the GMP guide the objectives of the proposed action.

The primary goals of the trails master plan are drawn from the GMP goals for providing for public use and enjoyment of the sites:

- For visitors to be informed and oriented before they arrive; comfortable, safe, and able to navigate clearly among the sites throughout their visit; and left with an enhanced understanding of the parks' resources and stories, along with a better understanding of NPS preservation practices.
- To attract new generations of visitors who reflect the current diversity of the U.S. population.
- The three national historic sites are administered in a safe, energy efficient, and cost-effective manner, with NPS support facilities located to allow the greatest efficiency with the least impact on site resources and surrounding community.
- Partnership development is ongoing and builds constituencies that advocate for the long-term preservation of the sites and of related resources and values beyond NPS boundaries.

The *Roosevelt-Vanderbilt National Historic Sites Comprehensive Interpretive Plan* (NPS 2004) identifies five specific interpretive goals for the sites: (1) meet major current challenges, (2) build and serve new audiences, (3) create a unified interpretive strategy, (4) strengthen programmatic partnerships, and (5) address logistical challenges. Although this plan is not specific to the trail system, it does include some specific recommendations such as addition of interpretive signs along the trails and transportation routes. The proposed action attempts to meet these goals, where applicable, as part of the proposed action.



Roosevelt-Vanderbilt National Historic Sites
Trails Master Plan Environmental Assessment

Figure 2
Study Area



SCOPING

Scoping is an early and open process to determine the breadth of environmental issues and alternatives to be addressed in a NEPA document. Scoping is used to identify which issues need to be analyzed in detail and which can be eliminated from in-depth analysis. It also allocates assignments among the interdisciplinary team members and/or other participating agencies, identifies related projects and associated documents, identifies permits, surveys, consultation, and other requirements, and creates a schedule that allows adequate time to prepare and distribute the plan/EA for public review and comment before a final decision is made. Scoping efforts include any public, staff, interested agency, or any agency with jurisdiction by law or expertise.

An internal scoping meeting was held on November 2-4, 2010 at the sites, where members of the NPS staff met and discussed existing issues and concerns to be addressed within the plan/EA. NPS staff and trail planning experts met with stakeholder groups, as well as the general public, on April 18-20, 2011 at the Wallace Center (Home of FDR NHS) in Hyde Park, NY. Stakeholders invited included representatives of the following agencies/organizations:

- Hyde Park Planning Board
- Hyde Park Town Board
- NY Department of Environmental Conservation (NYDEC)
- NY State Historic Preservation Officer (SHPO)
- Dutchess County Legislators
- NY Department of Transportation (NYDOT) Bicycle/Pedestrian Coordinator, Region 8
- Poughkeepsie-Dutchess County Transportation Council
- Dutchess County Planning
- U. S. Fish and Wildlife Service (USFWS), NY Field Office
- U. S. Environmental Protection Agency (EPA), Region 2
- NY State Department of State, Coastal Zone Management Program

The meetings provided the opportunity for the NPS to present information about the proposed project and gather input and comments to help shape the purpose and need and alternatives for the plan/EA. In addition, a project information sheet was posted to the NPS Planning, Environment and Public Comment website (PEPC) for public feedback. Public scoping feedback was accepted from April 18, 2011 to May 31, 2011. Additional information on the scoping process can be found in “Chapter 5: Consultation and Coordination.”

PLANNING ISSUES AND CONCERNS

During the scoping process, specific considerations and concerns were identified as critical to improving the trails. Along with the purpose and need for the proposed action, these topics guided the development of alternatives and contributed to the selection of impact topics, as identified in the next section.

Provide opportunities for multiple uses. The NPS would like to provide the public with opportunities for walking, hiking, bicycling, and mountain biking in designated locations

throughout the trail system. Some visitors would prefer certain trail uses to be separated in some areas, while in other areas, shared use between pedestrians and bicyclists should be considered.

Manage trail use and minimize conflicts. The NPS would like to provide shared use trails, with pedestrians and bicyclists using the same trail, as long as the trails are designed and managed properly for multi-use. Education of and outreach to trail users are essential to promote proper trail use and trail etiquette.

Strengthen local and regional connectivity. The NPS would like to work to connect the existing trail system with the local and regional system in order to establish local and regional bicycle and pedestrian connectivity throughout the sites and to other areas outside the sites.

Enhance the experience of the trails with interpretation about the historic, cultural, and natural features of the area. Visitors to the sites feel that relating the experience of the trails to the historic sites, cultural landscapes, and natural features is an important asset of the trail system. The NPS would like to associate trails with historic property uses and specific features of the sites, such as links to the gardens, gravesites, historic trails and roads, bridges, and other features. The NPS also would like to expand information about and interpretation of the natural resources of the area, including topics of wildlife, geologic features, trees, and vegetation. In addition, the NPS would like to provide orientation hubs throughout the system to provide interpretive information to visitors.

Promote and market the trail system to leverage economic development and tourism opportunities. The Hudson Valley is already a popular destination for bicycling and hiking, drawing visitors from surrounding metropolitan areas. The NPS believes there are opportunities to link trail use and visitors to the sites with other tourism destinations throughout the region. Several major events, including bicycle tours, draw visitors to the area each year and increase awareness of the trail system. The NPS and local and regional tourism entities could work together to promote and market the trail system.

Continue to develop a strong stewardship and volunteer program for the trail system. The NPS believes in the importance of a strong stewardship and volunteer program to sustain the trail system within the sites over the long term. Several existing organizations and clubs can help the NPS by building and maintaining trails, as well as providing trail use education. The NPS would also like to continue involvement with local schools and students at all grade levels.

REGULATORY ISSUES AND MANAGEMENT CONCERNS

Based on discussions with NPS staff and planning team members, implementation of the alternatives presented in this plan/EA should not require any changes to existing legislation or management policies. Several approvals and permits would be required prior to construction. In summary, permits and approvals required would include the following:

- Acquisition of a National Pollutant Discharge Elimination System permit, including a stormwater pollution prevention plan

- Consultation with USFWS to ensure compliance with section 7 of the Endangered Species Act (ESA)
- Consultation with the NY SHPO to ensure consistency with section 106 of the National Historic Preservation Act (NHPA). This may include preparation of a Memorandum of Agreement (MOA) or similar agreement
- Consultation with the NY Department of State Coastal Zone Program to ensure concurrence with the NPS determination of consistency with relevant coastal management policies per the Coastal Zone Management Act (CZMA)

These permits and approvals are described further in “Chapter 5: Consultation and Coordination.”

IMPACT TOPICS RETAINED FOR ANALYSIS

Impact topics are resources of concern within the study area that could be affected, either beneficially or adversely, by the range of alternatives presented in this plan/EA. They were identified based on the issues raised during scoping, site conditions, federal laws, regulations, Executive Orders, NPS *Management Policies 2006*, Director’s Orders, and staff knowledge of the sites’ resources.

Impact topics identified and analyzed in this plan/EA are listed below along with a brief rationale for the selection of each impact topic. They include visitor use and experience, soils and topography, water resources, wetlands, vegetation, archeological resources, cultural landscapes, and operations and infrastructure. Each impact topic is further discussed in detail in “Chapter 3: Affected Environment” of this document, while the impacts of the action are described in “Chapter 4: Environmental Consequences.”

Visitor Use and Experience

Enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks (NPS 2006). The NPS strives to provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the natural and cultural resources found in parks. The proposed action is meant to enhance the visitor experience, which encompasses interpretation, understanding, recreation, enjoyment, safety, circulation, and accessibility of the sites. Because the proposed action would result in changes to the visitor experience, the impact topic of visitor use and experience is addressed.

Soils and Topography

NPS *Management Policies 2006* (NPS 2006) states that the NPS will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soils, or its contamination of other resources. These policies further state “[m]anagement action will be taken by superintendents to prevent or at least minimize adverse, potentially irreversible impacts on soils.” A variety of soil types exist within the Roosevelt-Vanderbilt National Historic Sites. The proposed action includes disturbance of these soils from recreational use as well as manipulations (including minor

grading) to rehabilitate and restore damaged areas or new construction of trails as part of this plan. Therefore, the impact topic of soils and topography is addressed.

Water Resources

NPS *Management Policies 2006* state that the NPS will “take all necessary actions to maintain or restore the quality of surface waters and ground waters within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations.” Surface waters of the United States are regulated by the Clean Water Act (CWA). The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Estimates of water resources for the three sites include 4.4 miles of streams, 20.8 acres of ponds, and 46.2 acres of known freshwater wetlands, and 25 acres of tidal and freshwater wetlands. Most streams within the sites travel under the existing trail network through culverts or under bridges; however, the unauthorized trails often used by mountain bikers off Roosevelt Farm Lane may include informal stream crossings. Under the proposed Trails Master Plan, new trail crossings would be constructed and unauthorized trail use would either be formalized and improved or blocked from further use. Therefore, the impact topic of water resources is addressed.

Wetlands

Executive Order 11990 “Protection of Wetlands” requires federal agencies to avoid, where possible, adversely impacting wetlands. NPS *Management Policies 2006* and Director’s Order 77-1: *Wetland Protection* mandate that the NPS will strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. For regulatory purposes, the term “wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and other similar areas (NPS 2006). While most new trails would avoid wetlands, some alignments may require some small impacts to wetland resources. Therefore, the impact topic of wetlands is addressed.

Vegetation

NPS policy is to protect the natural abundance and diversity of all naturally occurring communities. The NPS *Management Policies 2006* (NPS 2006) and other NPS and park policies provide general direction for the protection of vegetation. The proposed development of additional trails would require removal of vegetation along the new alignments of where trails require widening to accommodate additional uses. Therefore, the impact topic of vegetation is addressed.

Archeological Resources

Archeological resources are the material remains of past human activity. These material remains are analyzed using several methods including, but not limited to, scientific tests, oral interviews, and ethnographic data. The archeological resources at the parks are physically and historically associated with the nationally significant historic structures and cultural resources. While not fully documented, an array of historic and a lesser amount of prehistoric archeological resources

are contained in the parks. The proposed action could result in changes to the condition of these resources. Therefore, the impact topic of archeological resources is addressed.

Cultural Landscapes

According to the NPS's *Cultural Resource Management Guideline* (DO-28), a cultural landscape is

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

As units of the national park system that were established because of their historic and cultural values, the Roosevelt-Vanderbilt National Historic Sites retain many aspects of their historic landscapes that can preserve cultural evidence of past use and interpret that use for members of the visiting public. The proposed work within the trails plan would allow wider access to a greater variety of users through establishment of new trails and widening of other existing trails. While these actions are unlikely to impact the cultural landscapes within the sites, it would provide a greater opportunity for visitors to experience and understand the landscapes. Therefore, the impact topic of cultural landscapes is addressed.

Operations and Infrastructure

Part of providing a quality experience for those visitors to and users of the national park system is ensuring the infrastructure provides safe and efficient access to park resources without overly burdening park staff. The proposed action could result in changes to the trail network and trail operations. Therefore, the impact topic of operations and infrastructure is addressed.

IMPACT TOPICS CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

The following presents an overview of impact topics that were considered but ultimately dismissed from further analysis. An impact topic was dismissed from further analysis if it was determined that the project did not have the potential to cause substantial change to the resource or value. The regulatory context and baseline conditions relevant to each impact topic were analyzed in the process of determining if a topic should be retained or dismissed from further analysis. An outline of background information used in considering each topic is provided below along with the reasons for dismissing each topic from further analysis.

Geologic Resources

NPS *Management Policies 2006* state that the NPS will “protect geologic features from the unacceptable impacts of human activity while allowing natural processes to continue” (NPS 2006). Although there would be some grading associated with the creation of new trails and the widening of existing trails under the proposed action, the extent of grading is not expected to

impact any geologic resources. Therefore, the impact topic of geologic resources was considered but dismissed from further analysis.

Floodplains

Executive Order 11988, “Floodplain Management,” and NPS DO-77-2: *Floodplain Management*, require an examination of impacts to floodplains and potential risk involved in placing facilities within floodplains. Bard Rock at Vanderbilt Mansion NHS provides access to the Hudson River and is within the 100-year floodplain; however, the proposed improvements are limited to the addition of some interpretive and wayfinding signs and secure boat storage. The boat storage would be limited to day use only. None of these improvements have the potential neither to noticeably alter the natural values of the floodplain nor to increase the exposure of humans to flood risk. Therefore, the impact topic of floodplains was considered but dismissed from further analysis.

Wildlife and Wildlife Habitat

NPS policy, as laid out in *NPS Management Policies 2006*, is to maintain as parts of the natural ecosystems of parks all plants and animals native to park ecosystems. The study area contains a variety of wildlife species that are adapted to using developed areas as habitat, such as white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and various songbirds. During construction of the new connector path, there would be a temporary disturbance and displacement of wildlife. The surrounding land, however, would continue to provide abundant nesting, escape, and protective cover. Some animals may temporarily relocate to areas outside the study area, but this would not be expected to have any long-term adverse effect upon local populations. Although a total of 1.3 miles of new trails would be constructed (as part of 3 different trails), this would not result in noticeable habitat fragmentation for most species. Wildlife would be expected to reoccupy the study area following construction. Therefore, the impact topic of wildlife and wildlife habitat has been dismissed from further analysis.

Special Status Species

In addition to NPS policies and management guidelines, the Endangered Species Act of 1973, as amended, provides for the protection of rare, threatened, and endangered species (plant and animal). The Roosevelt-Vanderbilt National Historic Sites provide habitat for a number of state-listed rare or threatened species, including but not limited to the Jefferson’s salamander (*Ambystoma jeffersonianum*), the Cooper’s hawk (*Accipiter cooperii*), the bald eagle (*Haliaeetus leucocephalus*), and the box turtle (*Terrapene carolina*). It also provides habitat for the federally threatened bog turtle (*Clemmys muhlenbergii*) and the federal candidate species New England cottontail (*Sylvilagus transitionalis*). The Indiana bat (*Myotis sodalis*) is a historic species at the sites (NPS 2009). A list of species acquired from the USFWS New York Field Office in August of 2011 confirms that these terrestrial species are known to occur within Dutchess County (see appendix A). The sites do not include any federally designated critical habitat. Neither the bog turtle nor the Indiana bat are known to currently use the sites; therefore, no impacts are expected on federally listed species. If necessary, the NPS would conduct a survey for federally threatened or endangered species before construction. If any special status species are encountered during

trail construction or rehabilitation, the NPS would cease work and resume coordination with the USFWS. Therefore, the impact topic of special status species was dismissed from further analysis.

Air Quality

The sites are located in Dutchess County, which was designated on June 15, 2004 as a moderate non-attainment area under the 8-hour ozone standard by the EPA (PDCTC 2011). Any increase in emissions associated with the proposed action, however, would be limited to use of heavy vehicles during trail construction. Such impacts would be temporary and would not be expected to exceed a negligible level. Therefore, the impact topic of air quality was considered, but dismissed from further analysis.

Soundscapes

The sites provide a quiet escape from the hustle and bustle of metropolitan life. The NPS strives to maintain or reduce existing noise impacts within the units of the national park system, so the units can continue to serve as a refuge from the surrounding urban environment. The proposed action would not change the soundscape at the sites because the possible brief use of heavy machinery for creation of new trails under the proposed action would not cause a noticeable increase in the existing soundscape, which is already impacted by passing traffic on Routes 9 and 9G. Therefore, the impact topic of soundscapes was considered but dismissed from further analysis.

Lightscares

In accordance with *NPS Management Policies 2006* (NPS 2006), the NPS strives to preserve natural ambient landscapes and other values that exist in the absence of man-made light. There would be no addition (or removal) of artificial lighting as part of the proposed action. Therefore, the impact topic of lightscares was considered but dismissed from further analysis.

Prime and Unique Farmland

Prime farmland is one of several designations made by the U.S. Department of Agriculture to identify important farmlands in the United States. It is important because it contributes to the nation's short- and long-range needs for food and fiber. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, an acceptable level of acidity or alkalinity, an acceptable content of salt or sodium, few to no rocks, and permeable soils (designated as prime farmland soils). The Dutchess County Soil and Water Conservation District has identified several soil types within the sites that qualify as prime and unique farmland. However, proposed work within the trails plan would not take place within areas that possess these resources. Therefore, the impact topic of prime and unique farmland was considered but dismissed from further analysis.

Wilderness

The Wilderness Act (Public Law 88-577) defines wilderness as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor and does not

remain.” The intent of the act is to “secure for the American people of present and future generations the benefits of an enduring resource of wilderness.” The management of wilderness areas within the national park system is guided by NPS *Management Policies 2006*, which is supplemented by DO-41: *Wilderness Stewardship*. Wilderness areas do not exist within the sites. Therefore, the impact topic of wilderness was considered but dismissed from further analysis.

Historic Structures

A historic structure is defined by the NPS as “a constructed work, usually immovable by nature or design, consciously created to serve some human act” (NPS 2002). In order for a structure or building to be listed on or eligible for listing on the National Register, it must possess historic integrity of those features necessary to convey its significance, particularly with respect to location, setting, design, feeling, association, workmanship, and materials. The National Register Bulletin #15: *How to Apply the National Register Criteria for Evaluation* (NPS 1990) provides a comprehensive discussion of these characteristics. Although there are a number of historic structures with the bounds of the sites, most of them are outside the study area of the plan. Some small-scale historic structures such as stone bridges and fences may fall within the study area of the trail network; however, the plan recommends that any trail work avoid these structures. Therefore, the impact topic of historic structures was considered but dismissed from further analysis.

Ethnographic Resources and Sacred Sites

An ethnographic resource is defined as any “site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (NPS 2002). There are no known ethnographic resources, including sacred sites, within the study area. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed. Therefore, the impact topic of ethnographic resources was considered but dismissed from further analysis.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts on Indian Trust resources from a proposed project or action by U.S. Department of the Interior agencies be explicitly addressed in environmental documents. The federal Indian Trust responsibility is a legally enforceable obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal laws with respect to Native American tribes. There are no known Indian Trust resources in the study area, and the lands comprising the sites are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, the impact topic of Indian Trust resources was considered but dismissed from further analysis.

Museum Collections

A museum collection is an assemblage of objects, works of art, historic documents, and/or natural history specimens collected according to a rational scheme and maintained so that they

can be preserved, studied, and interpreted for public benefit (NPS 2002). Collections and archives do exist within the study area, however they are located within the historic estates and buildings and would not be disrupted by the proposed work within the trails plan. Therefore, the impact topic of museum collections was considered but dismissed from further analysis.

Socioeconomic Resources

NPS Management Policies 2006 (NPS 2006) requires the NPS to identify any impact to socioeconomic resources when determining the feasibility of a proposed action. The Hudson Valley is already a popular location for trail users. As part of this plan, the NPS hopes to tap into the existing tourism industry to promote the sites and their resources; however, the proposed action is not expected to result in changes to the existing socioeconomic resources. Therefore, the impact topic of socioeconomic resources was considered but dismissed from further analysis.

Environmental Justice

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low income populations and communities. According to the EPA, environmental justice is the “...fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.”

The goal of “fair treatment” is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts. Environmental justice was considered but dismissed from further analysis for the following reasons:

- The NPS staff and planning team solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed action would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse impacts on any minority or low-income population.
- The impacts associated with implementation of the proposed action would not disproportionately affect any minority or low-income population or community.
- Implementation of the proposed action would not result in any identified effects that would be specific to any minority or low-income community.

Energy Requirements and Conservation Potential

The CEQ guidelines for implementing NEPA require an examination of energy requirements and conservation potential as a possible impact topic in environmental documents [40 CFR 1502.16(e)]. The NPS strives to incorporate the principles of sustainable design and development into all facilities and operations. The objectives of sustainability are to design structures to minimize adverse impacts on natural and cultural values; to reflect their environmental setting; to maintain and encourage biodiversity; to construct and retrofit facilities using energy efficient materials and building techniques; to operate and maintain facilities to promote their sustainability; and to illustrate and promote conservation principles and practices through sustainable design and ecologically sensitive use. Essentially, sustainability is living within the environment with the least impact on the environment. Although improving the bicycle and pedestrian connections between the sites may encourage visitors to the sites to use those forms of transportation instead of a car or shuttle, none of the proposed actions are expected to result in noticeable changes to energy requirements or the ability to conserve energy resources. Consequently, any adverse impacts relating to energy use, availability, or conservation would be negligible. Therefore, the impact topic of energy requirements and conservation potential was considered but dismissed from further analysis.

2

ALTERNATIVES

This chapter describes various alternatives for the Roosevelt-Vanderbilt National Historic Sites Trails Master Plan. The Trails Master Plan is meant to provide guidelines for trail use, operation, and design that would optimize visitor use of the trails and enhance multi-modal connectivity at the Roosevelt-Vanderbilt National Historic Sites. CEQ regulations for implementation of NEPA call for the alternatives considered in a document to include a no-action alternative. The description and evaluation of this alternative provides a baseline to which the action alternatives can be compared. This plan/EA evaluates two alternatives: the no-action (alternative A) and the proposed Trails Master Plan (alternative B).

DEVELOPMENT OF ALTERNATIVES

The proposed Trails Master Plan is based on internal scoping concepts developed by NPS staff and their consultant. Further refinement of the plan was based on information gained from scoping within the NPS, consultation with representatives of relevant government agencies, and outreach to the general public during the planning process. This outreach took the form of a public scoping meeting on April 19, 2011 at the Henry A. Wallace Center at the Home of FDR NHS. Additionally, the NPS planning team met with stakeholder groups April 18-20, 2011 in the same location. The Trails Master Plan would contribute to the realization of GMP goals by helping visitors to be:

- Informed and oriented before they arrive
- Comfortable, safe, and able to navigate clearly among the sites throughout their visit
- Left with an enhanced understanding of the sites' resources and stories, along with a better understanding of NPS preservation practices.

During alternatives development, the planning team identified a number of constraints that exist to developing an expanded and integrated multi-modal trail system at the sites. A set of preliminary recommendations were compiled to address these barriers to the extent possible. These recommendations consider suitable and appropriate uses and intensity of use, given the cultural and natural resources present at the three sites. The recommendations are meant to ensure that activities related to trail use enhance the visitor experience, provide interpretive opportunities, and improve access to these resources as appropriate, while also protecting and avoiding impacts to them. Both the no-action alternative (alternative A) and the proposed Trails Master Plan (alternative B) are described in more detail below. Those concepts found to be

infeasible during development of the proposed Trails Master Plan were dismissed and are noted below under “Alternatives Considered but Dismissed.”

ALTERNATIVE A: NO-ACTION

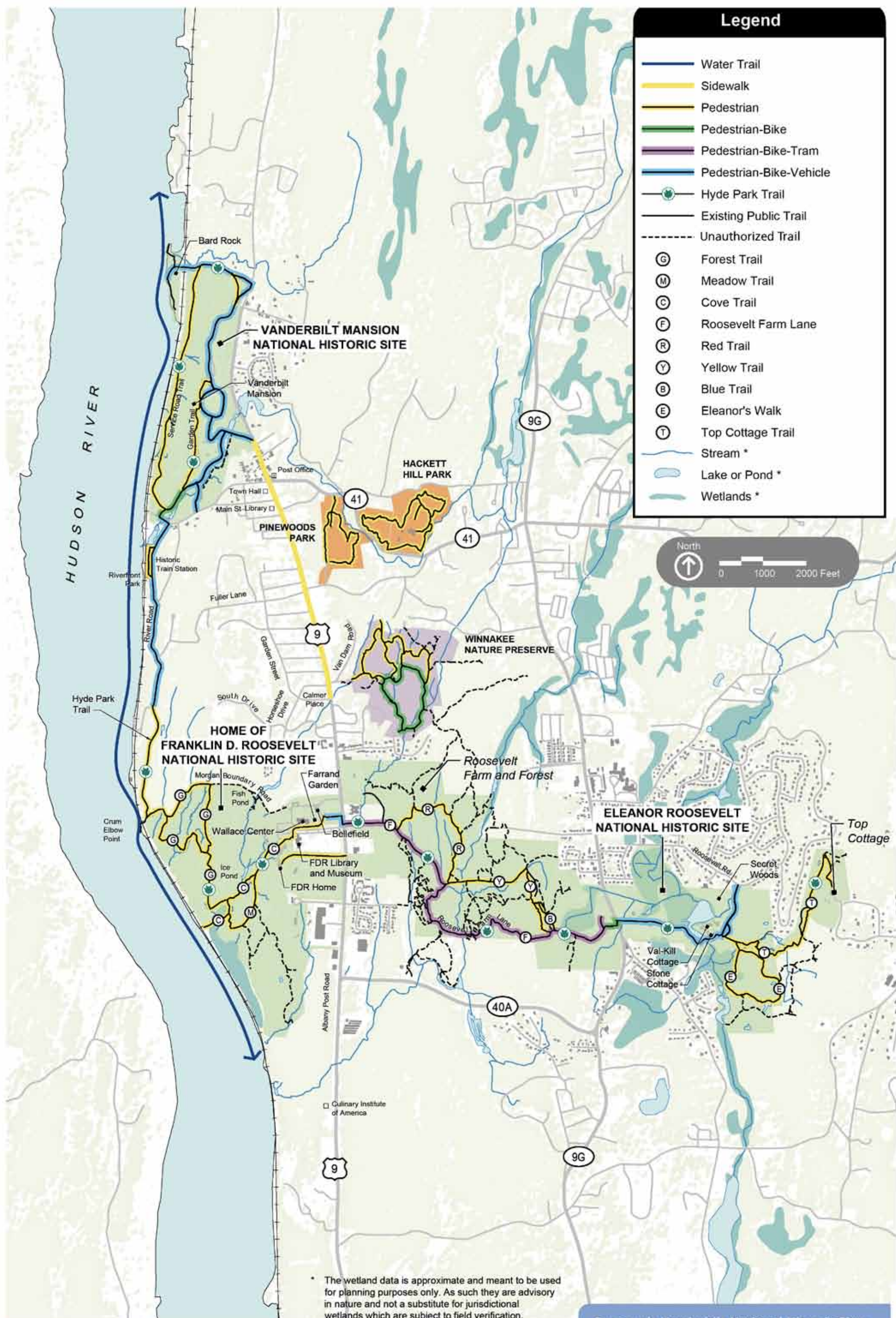
Under the no-action alternative, the existing trail system would continue to be managed as it is currently, according to guidance provided in the GMP. Maintenance and improvements would take place as time and funding allows but would not be part of a formalized comprehensive trails plan.

The trail system at the Roosevelt-Vanderbilt National Historic Sites varies considerably from site to site, and in many cases there is variation within the sites themselves (see figure 3, “Alternative A: Existing Trail Network”). Though many of the trails are contiguous and connected, the trail surfaces and the types of use that are allowed (e.g., walking, bicycling, driving) vary considerably and may change abruptly along some trail segments without provision of alternate routes. Interpretive elements to enhance the visitor understanding of sites are limited to two locations (the Cove Trail trailhead and the western terminus of the Roosevelt Farm Lane) and a cell phone tour. Water access is limited to a boat landing at Bard Rock that is used occasionally by users of the Hudson River Greenways Water Trail.

Each of the three national historic sites is distinctly different; however, the trail system within each site is composed of a variety of trail surfaces and permitted user types. NPS guidelines allow biking on most, but not all park roads, as well as the recently rehabilitated farm route, Roosevelt Farm Lane. Pedestrian access is allowed on all authorized trails. Equestrian use is generally prohibited but may be granted by permit under very limited circumstances (horse-drawn wagons at park events are the only example where horses have been allowed to-date), and motorized uses are prohibited outside of the paved roads within the sites (all-terrain vehicle [ATV] use is prohibited throughout the sites). Allowed uses of trails sometimes vary between trails connecting to the sites’ trails from outside NPS jurisdiction (e.g., bicycle use may be allowed on a trail outside the national historic sites but once within NPS jurisdiction, such a use is prohibited on the same trail). The trail network includes a combination of three primary trail types:

- Unpaved trails, including primitive “single track” hiking trails, “double track” trails, and unpaved former farm/access roads that are authorized only for foot travel, totaling 8.3 miles throughout the three parks
- Unpaved service roads (Roosevelt Farm Lane) that allow both pedestrian and bicycle use, totaling 1.8 miles
- Shared roadway routes, consisting of paved roads that allow for shared use by motor vehicles, bicyclists, and pedestrians, totaling 1.7 miles

A summary of how these trail types make up the existing trail system and the interpretive opportunities provided at each site are provided in the following sections.



Roosevelt-Vanderbilt National Historic Sites
Trails Master Plan Environmental Assessment

Figure 3
Alternative A: Existing Trail Network



National Park Service
U.S. Department of the Interior
Roosevelt-Vanderbilt National Historic Sites
New York

TRAIL SYSTEM AT THE HOME OF FDR NATIONAL HISTORIC SITE

The trail network at the Home of FDR NHS would continue to be composed largely of former farm roads that were used to access FDR's farmlands and forest plantations as well as neighboring farms. Many of the trails have narrow tread widths, surfaces of soil and stone, and are open only to foot travel. Although there are some longer loop trails, there are few options for short walking loops.

The trails provide limited access to the Hudson River via the Cove Trail, which is currently closed due to beaver activity and resultant flooding, and Crum Elbow Point via the Forest Trail. The bridge over the railroad tracks to Crum Elbow Point is closed due to structural deficiencies, which also limits public access. These two closures have effectively resulted in no access to the Hudson River from the Home of FDR NHS at this time.

The Home of FDR NHS offers a variety of natural and cultural resources, many of which are accessible via the trails. Wetlands near the Hudson River are home to a variety of plants and animals, providing natural interpretive opportunities. Interpretive opportunities currently are limited to the existing waysides and the cell phone tour described under the Hyde Park Trail heading below.

Bicycle access at the Home of FDR NHS is limited to the few paved roads and along Roosevelt Farm Lane, a predominantly gravel road through the Roosevelt Farm and Forest, which is separated by Route 9 (Albany Post Road) from the western portion of the site. Roosevelt Farm Lane, an unpaved service road, provides a critical link within the trail system for circulation as well as interpretive opportunities, and is open to use by pedestrians and bicyclists, as well as tram service. This trail is open March to November and is generally closed to bicyclists in December 1 to February 28 for safety reasons. In addition, a new service road, linking Roosevelt Farm Lane to the former drive in site, will be constructed in 2012 and will also be open to pedestrians and bicyclists; this is part of the Hyde Park Drive-In improvements, which are covered under a separate EA.

Several miles of authorized and unauthorized primitive single track and double track trails exist within the Home of FDR NHS, providing scenic hiking in wooded natural areas. Double track trails, so named since they consist of two wheel tracks or a single wide trail tread, provide visitors with a trail that typically consists of a well-packed soil and stone surface and is usually easily accessible on foot. Double track trails can provide hikers, walkers, runners, and bicyclists with routes that access the many natural areas of the sites without being too challenging. Single track trails, so named for their narrow tread that is the width of a single user, are the most rustic type of trail and are most often used by hikers or mountain bikers. They can vary from a smooth, groomed surface to very technical trails with rocky surfaces and twisting routes.

Approximately 5.1 miles of unauthorized trails within the Roosevelt Farm and Forest see use by mountain bikers and occasionally by ATVs. This now unauthorized use is a continuation of use that took place on these trails prior to NPS acquisition of the site in 2007. Access throughout the Home of FDR NHS is complicated by the fact that it includes the Roosevelt Farm and Forest, across Route 9 from the site headquarters, as well as Top Cottage, which is actually contiguous

to the Eleanor Roosevelt NHS, located to the east of Route 9G. Access between these portions of the site requires crossing two busy roads (Routes 9 and 9G), and the existing trails connecting the western portion of the site to the Roosevelt Farm and Forest to Top Cottage range from paved roads to narrow and primitive hiking trails, with varying permitted uses (see figure 3).

TRAIL SYSTEM AT THE ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

The trails at the Eleanor Roosevelt NHS, exclusive of those segments that are along the entrance road, are intended to remain accessible only on foot, retaining the site's character of retreat and serenity. Interpretive opportunities at this site are currently limited to the cell phone tour described under the Hyde Park Trail heading below.

The trails within the Eleanor Roosevelt NHS, also known as Val-Kill, are limited primarily to pedestrian use. Pedestrian trails include Top Cottage Trail (1.0 miles) and Eleanor's Walk (0.8 miles). This site was a retreat for Eleanor Roosevelt and is physically removed from the Route 9 commercial corridor. As a result, this site continues to serve as a contemplative site for visitors. The entry road at Val-Kill is shared by pedestrians, bicyclists, and motorists. Bicycle and vehicle access is limited to the paved road and parking lot, at which point visitors must tour the remainder of Eleanor Roosevelt NHS and the Top Cottage site by foot on wide unpaved trails, though some have steep segments.

TRAIL SYSTEM AT THE VANDERBILT MANSION NATIONAL HISTORIC SITE

The trail system at Vanderbilt Mansion NHS includes scenic drives and garden paths that were designed as part of the "parkland" portion of the estate, as well as an unpaved service road that parallels the railroad tracks following the eastern bank of the Hudson River. The trail conditions at this site vary considerably, even along the segments of the Hyde Park Trail that pass through it. Much of the circulation within this site requires visitors to travel along paved roads that are shared by all modes: motor vehicles, bicyclists, and pedestrians. Visitors enter the site via a paved roadway at the southern end with pedestrians, bicyclists, and motorists sharing a narrow roadway. During periods of heavy visitation, including on weekends, the roadway can become crowded with visitors of various modes. Motorists may exceed the posted 15 MPH speed limit and bicyclists and pedestrians often walk or ride several abreast. The traffic flow along Vanderbilt Park Road becomes one-way and exits the site to Route 9, making bicycle access and circulation difficult, requiring use of heavily traveled Route 9. Trails limited to pedestrian use at Vanderbilt Mansion NHS include the 1.1 mile Service Road Trail along the western portion of the site, along the Hudson River, and the Garden Trail (0.4 miles), which provides access to the site's gardens.

The Vanderbilt Mansion NHS is also physically separated from the Home of FDR NHS by approximately 1.5 miles, requiring travel along narrow public roads. Though the Hyde Park Trail follows River Road to reach a wooded entrance to the trail, eventually entering the Home of FDR NHS, bicycles are not allowed access beyond the road segment, no alternate route has been designated along local roads, and little wayfinding exists.

HYDE PARK TRAIL

Overlaying some of these trails is the Hyde Park Trail, a community trail linking the NPS sites to each other through a network of trails on private and municipal lands and public roads.

Established in 1991, the Hyde Park Trail currently stretches 9.4 miles connecting the Vanderbilt Mansion NHS, the Home of FDR NHS, the Eleanor Roosevelt NHS, and Top Cottage. The Hyde Park Trail also has branches in lands managed by the Town of Hyde Park, Scenic Hudson Land Trust, Winnakee Land Trust, and private landowners under trail easement. Though the Hyde Park Trail provides a continuous, linear trail connecting all of the Roosevelt-Vanderbilt National Historic Sites, the trail surface and conditions vary tremendously, from shared roadways to hiking trails, and the allowed users along the trail vary as well. The trail is part of the Hyde Park Heritage Greenway Trail System, which is designated as a National Recreation Trail.

TRAILHEADS, ACCESS POINTS, AND TRAIL AMENITIES

Visitors can access the existing trail network from various existing parking areas and neighborhood access points; however, formal trailhead amenities are currently limited to kiosks and interpretive boards at the Cove Trail and the Roosevelt Farm Lane. Furthermore, the access points are not linked by wayfinding improvements, and are not clearly identified as parts of a unified network. The following table identifies existing facilities.

TABLE 1. EXISTING TRAILHEADS AND ASSOCIATED AMENITIES

Trailhead Location	1-Vanderbilt Mansion	2-Historic Train Station †	3-Wallace Center	4-Roosevelt Farm Lane (Western Terminus)	5-Roosevelt Farm Lane (Eastern Terminus)	6-Top Cottage/Eleanor's Walk Trailhead‡
Kiosk with Maps			*	*		
Directional Signs			*			
Vehicle Parking	*	*	*	*	*	*
Bus Parking	*		*			*
Bicycle Parking	*		*	*	*	*
Rest Room Facilities	*		*			* (seasonal)
Benches	*	*	*			*
Water Fountain	*		*			* (seasonal)

† this trailhead is located outside NPS jurisdiction

‡ these trailhead amenities include those offered at the historic core of the site

TRAIL SYSTEM OUTSIDE ROOSEVELT-VANDERBILT NATIONAL HISTORIC SITES

The physical separation of the sites requires that visitors use the roadway network in Hyde Park to access NPS sites and travel between them. Many local and regional destinations and attractions within the Town of Hyde Park and Dutchess County also require the use of roads for access, including busy arterials such as Route 9 and Route 9G. The roadway network provides

minimal wayfinding signs, crosswalks, or other traffic calming measures for visitors that want to visit the sites and nearby destinations by foot or on bike. Although maintenance and improvement of this area is the primary responsibility of the town, county, and NY Department of Transportation (NYDOT), the NPS may coordinate with these entities to address safety and wayfinding, as needed. Pedestrian routes within the sites, between sites, and within the Town of Hyde Park are varied and often incomplete. For instance, the Town of Hyde Park has identified Albany Post Road as needing improved pedestrian infrastructure. Gaps occur within the sidewalk network, and pedestrian crossings are limited along these heavily trafficked roads. Pedestrian circulation is often poorly defined. In other locations simple unpaved sidepaths may provide opportunities to allow pedestrians to walk off of the paved roadway.

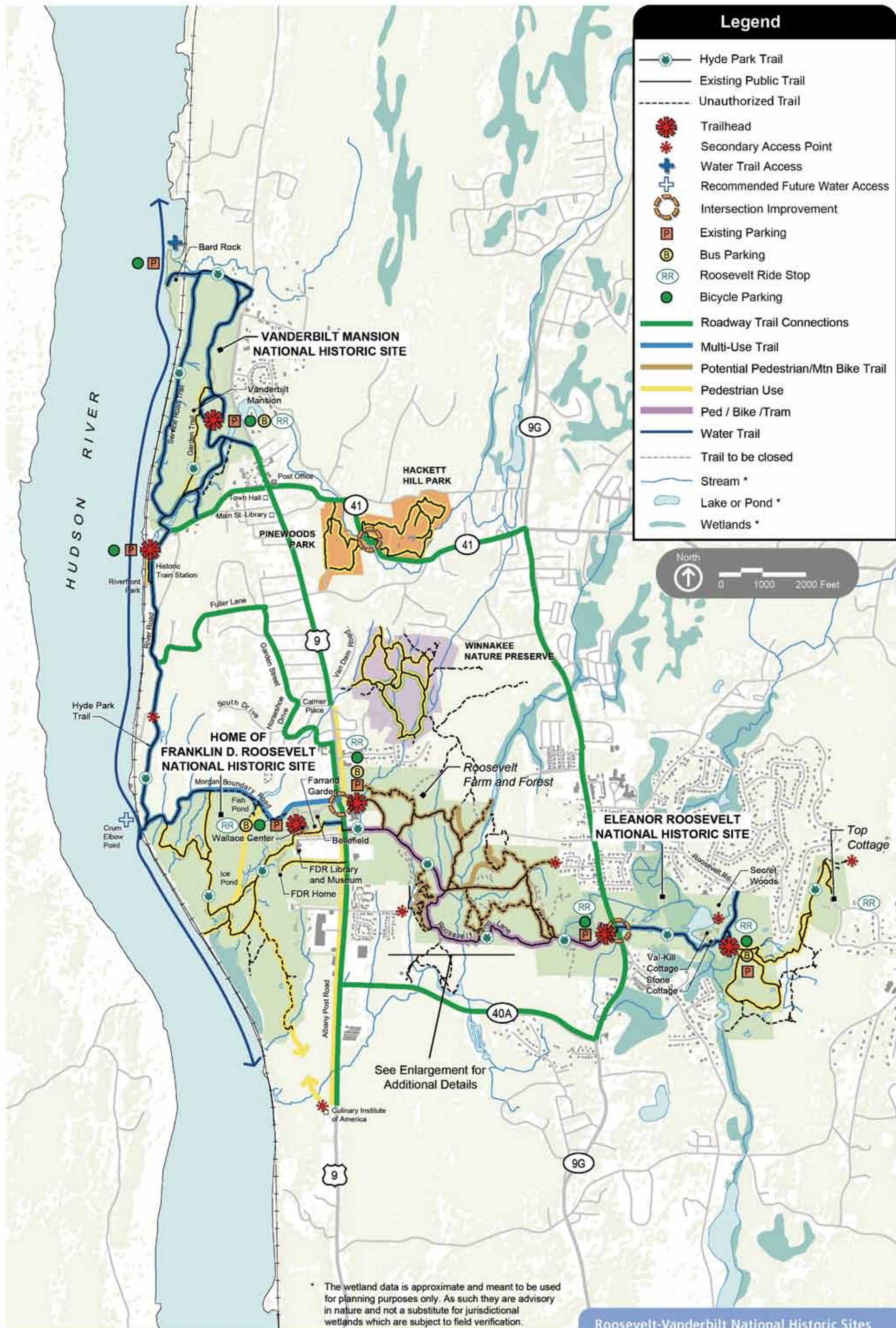
ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Under alternative B, the NPS would adopt the proposed Trails Master Plan as a comprehensive plan for how to best capitalize on and enhance the existing trail network, as described above, while also adding or formalizing new trails to improve access and connections within and between the sites. Given the variation in existing conditions, along with the variety of trail user groups, the proposed plan would address use management as well as physical improvements. Currently there are no multi-use paths within the sites or immediately nearby. Though the roadway network can be expected to address the connectivity needs, there are limited instances where a shared-use path may better address the needs of visitors travelling between the sites.

The plan focuses on the improvement of connectivity for the specific trail user groups. In some cases, the plan recommends separation of different user groups; in other cases it suggests appropriate locations for shared use. The overall trail system is outlined on figure 4. In focusing on improved access, connectivity, and use management, the plan proposes improvements by user type. The proposed improvements are outlined below in the context of general improvements that affect the entire trail system, specific improvements within each site, and improvements suggested for areas outside NPS jurisdiction.

OVERALL RECOMMENDED TRAIL SYSTEM

Figure 4 depicts the overall trail network that would result from implementation of the recommendations described above. It represents an alternative that addresses the needs of various user groups and existing conditions. It also represents a set of improvements that can be phased over time along with a refined trail management program.



Roosevelt-Vanderbilt National Historic Sites
Trails Master Plan Environmental Assessment

Figure 4
Alternative B: Overall Proposed Trail System



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Roosevelt-Vanderbilt National Historic Sites
New York

Portions of the overall system require no change in existing conditions, while other aspects of the plan require physical and/or use management changes. The overall system demonstrates how the trail network can unify the three sites, and facilitate connection to the Hyde Park area. Specific improvements by user type are discussed below.

Interpretive Opportunities

There is an opportunity to better integrate the trail system with the experiences and resources of the national historic sites throughout the trail system. Stories and educational information conveyed through meaningful and creative interpretation can enlighten trail users about the historical importance of the area and its past, present, and future value to our nation and the local communities surrounding the sites. Unique and interesting historic and cultural resources are visible throughout the system, as well as natural resources. In addition to interpretive signs and brochure information, virtual caching offers a potential way to highlight the resources at ROVA. Although physical geocaching is prohibited in the Park, the use of virtual technologies may provide a way to create discovery tours that utilize the trail system to help tell the stories of the three sites. In addition to the existing Hyde Park Explorer cell phone tour, figure 5 highlights some of the main interpretive opportunities that the NPS would highlight as part of the improved trail system. The improvements are numbered on figure 5, and that numbering corresponds to the list below.

Home of FDR National Historic Site

1. White Pine plantation – One of several forest plantations at the sites, this was established by FDR in 1914.
2. Freshwater tidal marsh – This rare habitat along the Hudson was created when the railroad was constructed in the 1850s.
3. Ice Pond – This was the site where ice used in the Roosevelt home was cut and transported to the ice house near the Rose Garden.
4. Rehabilitation route – FDR used the driveway known as Home Road between the FDR Home and Route 9 for physical rehabilitation activities.
5. White Pine plantation – Another forest plantation, established by FDR in 1924.
6. Maritje Kill Bridge - Originally built by FDR in 1925, the original bridge can be seen under the modern bridge. This bridge allowed the Roosevelts to travel between Springwood and Val-Kill.
7. Site of tenant farm – Located at the eastern end of the Roosevelt Farm and Forest, the farm was last operated by Moses Smith, a longtime Roosevelt tenant who raised vegetables and livestock.

Eleanor Roosevelt National Historic Site

8. Tulip-tree plantation – This was established by FDR in 1932 as part of his demonstration forest in cooperation with the New York State College of Forestry in Syracuse, New York.

Vanderbilt Mansion National Historic Site

9. Bard Rock – Located at the northern end of the Vanderbilt Mansion NHS, this was the location of the Vanderbilt boat house and was also a Colonial era landing site.
10. Formal Gardens – South of the Vanderbilt Mansion, these multi-tiered gardens are maintained by the Frederick W. Vanderbilt Garden Association.

Outside Roosevelt-Vanderbilt National Historic Sites

11. Hyde Park Train Station – Located between River Road and the Hudson River, the station was the arrival/departure point for the King and Queen of England during their visit in 1939.

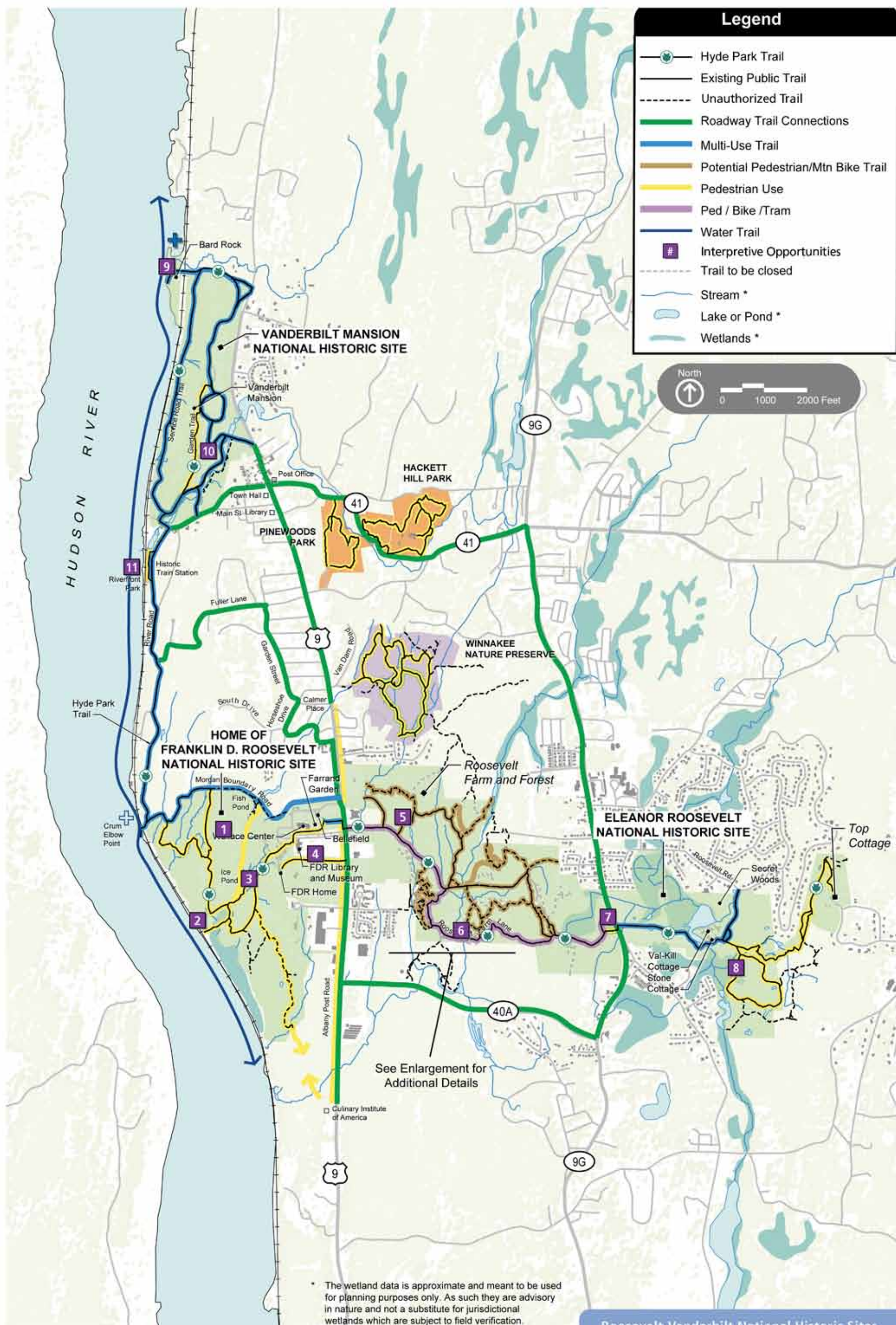
Emergency Service Access

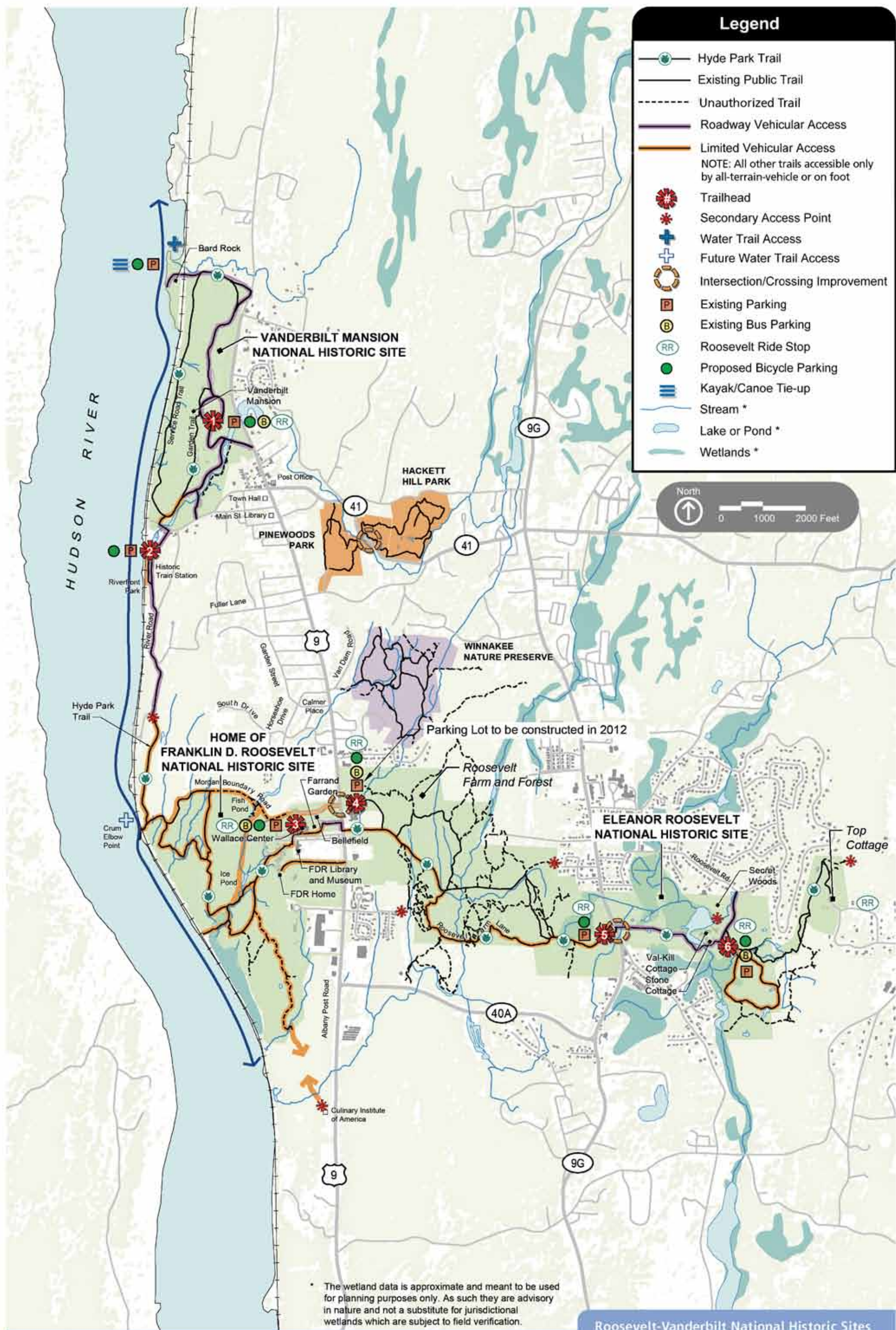
Another improvement that would apply throughout the trail system is an increased accessibility to the trail system for emergency medical service (EMS) providers. Trail infrastructure, wayfinding, and even trail closure would help define a system of emergency access points and routes. The NPS would coordinate internally and with other agencies on implementation of the proposed improvements, as they may impact emergency response plans. Figure 6 identifies three types of facilities for EMS consideration: paved roads for vehicular access; unpaved double track trails with limited vehicular access; and all other trails, where width, topography, or other features limit access to ATV or on-foot

PEDESTRIAN ROUTES

Figure 7 includes the existing and proposed pedestrian network within and between the three sites. The varying conditions within the sites lead to a pedestrian network that is also varied, and which includes sections of pedestrian-only trails, sidewalks, and multi-use trails (pedestrians, bicycles, and/or motor vehicles).

Several actions would apply to the overall utility of the trail system for pedestrians throughout and between the sites. The NPS would install wayfinding that directs users to destinations within the sites and would coordinate with relevant authorities to install signs outside NPS jurisdiction. NPS would also post signs to make all users aware of the shared roadway conditions and appropriate etiquette and would consider traffic calming where pedestrians share the roadway with motor vehicles to ensure motorists obey the 15 MPH speed limit. For all trails, the NPS would conduct evaluations of accessibility using Universal Trail Assessment Process (UTAP) standards and would make accessibility information readily available to the public. Both new and existing trails would be designed using established design criteria and guidelines for development of new trails as well as improvement of existing trails. Specific recommended improvements to the pedestrian network at each site are described below.





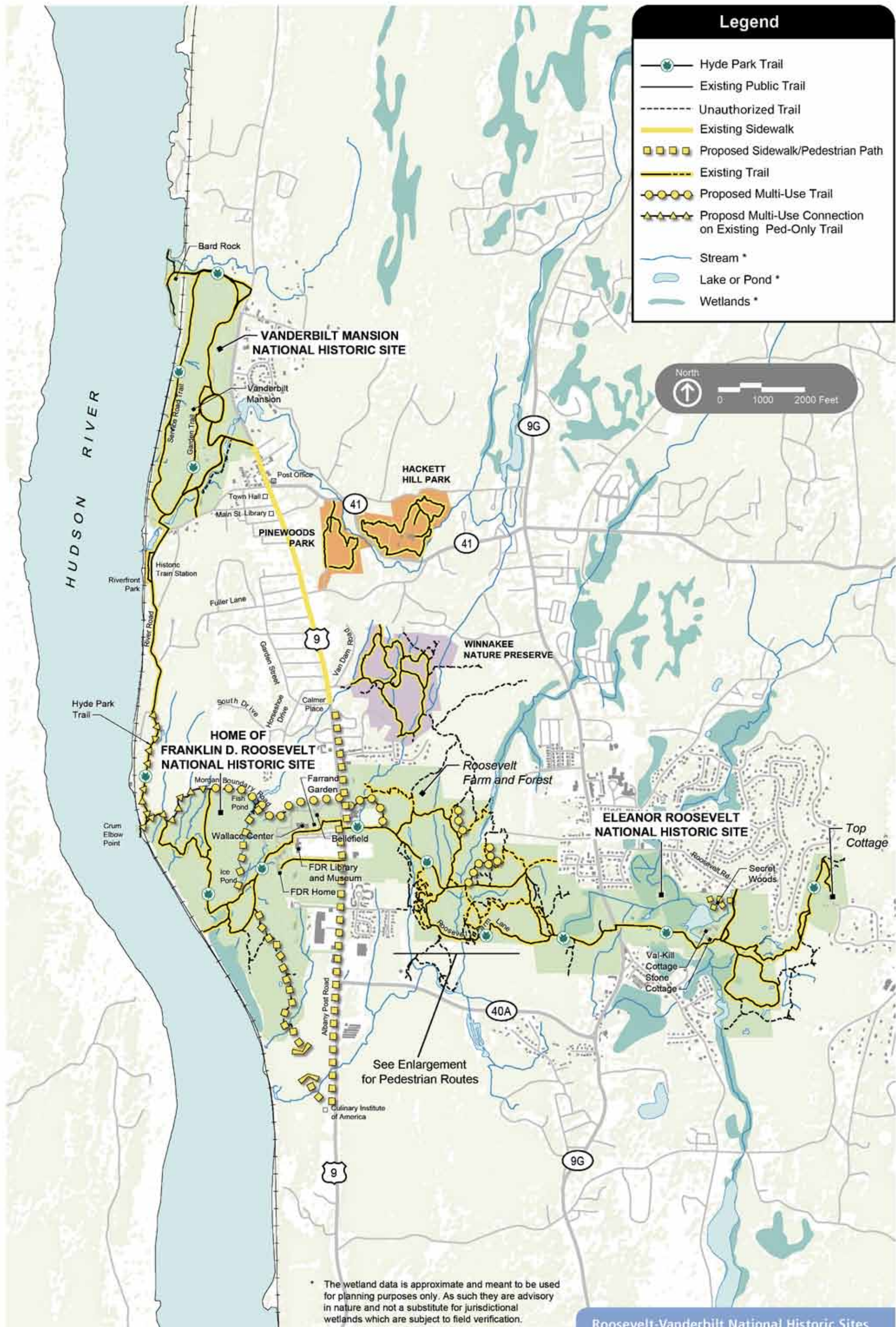
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Figure 6
Alternative B: Emergency Access



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Figure 7
Alternative B: Pedestrian Routes



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U.S. Department of the Interior

Roosevelt-Vanderbilt National Historic Sites
New York

Home of FDR National Historic Site

The plan calls for the NPS to implement a number of items meant to improve pedestrian use at the Home of FDR NHS. Additional orientation would better define pedestrian circulation at Bellefield and between the Wallace Center and the Farrand Gardens via existing sidewalks. Waysides and signs would be added to provide additional interpretation regarding FDR's physical rehabilitation activities along the 0.3 mile driveway known as Home Road between the FDR Home and Route 9.

A total of 1.3 miles of new trails would be established at the Home of FDR NHS. Most of this link would comprise the 0.5 mile connection between the Ice Pond and the Fish Pond, the 0.8 mile new connection along the Morgan Boundary Road from the Forest Trail and connection to Route 9, and the 0.5 mile trail from the Meadow Trail leading south towards the Culinary Institute of America. All three of these trails would be 10-foot wide and would therefore require approximately 2.2 acres of grading and/or vegetation removal during construction. The trail along the Morgan Boundary Road would be a multi-use trail, and the trails between the Ice Pond and Fish Pond and the trail leading to the Culinary Institute of America would provide pedestrian-only links. These new connections would provide interpretive access to historic features including a white pine plantation, a freshwater tidal marsh, and the Ice Pond. It should be noted that the Morgan Boundary Road is not owned by the NPS; its use as a trail would be subject to an easement with the landowner.

At the Roosevelt Farm and Forest, the NPS would improve on-road conditions along the section of the Hyde Park Trail that consists of a shared roadway for bicyclists, pedestrians, and the Park tram. The NPS would also designate 2.3 miles of the existing 5.1 miles of unauthorized trails at Roosevelt Farm and Forest as authorized and would create 0.5 total miles of new trail connections to make these trails into loops. These trails would be single track trails and would be shared with mountain bikes. Interpretive opportunities would include another white pine plantation, the Maritje Kill bridge and the tenant farm. The Roosevelt Farm Lane would continue to be open to pedestrians year-round.

Eleanor Roosevelt National Historic Site

Under the proposed Trails Master Plan, the NPS would evaluate the best location for a new pedestrian path into the Secret Woods. This trail would be approximately a quarter mile long and 5 feet wide. The location of this trail on figure 7 is approximate and would be refined during future design. Other pedestrian-oriented improvements at Eleanor Roosevelt NHS would be the addition of wayfinding, orientation, and trailhead amenities discussed in other sections describing this alternative.

Vanderbilt Mansion National Historic Site

Pedestrian-oriented improvements at the Vanderbilt Mansion NHS would be limited to the addition of wayfinding, orientation, and trailhead amenities discussed in other sections describing this alternative.

Outside Roosevelt-Vanderbilt National Historic Sites

Additional recommendations would need to be coordinated with other state and/or local agencies and/or private landowners. Specifically, the NPS would coordinate with the Town of Hyde Park to extend the proposed sidewalk at the former drive in site to connect to existing sidewalks and would develop a sidewalk along Albany Post Road linking the Home of FDR NHS to the Culinary Institute of America and coordinate implementation with the Town of Hyde Park, Dutchess County, and NYDOT.

NPS would also coordinate with the Town of Hyde Park and NYDOT to provide an improved intersection at the intersection of the Eleanor Roosevelt NHS entrance at Route 9G (including the Hyde Park Trail crossing of Route 9G) for pedestrian safety. The NPS would recommend that consideration should be given to installing a high-visibility crosswalk and/or advance warning signs.

BIKE ROUTES

Figure 8 includes existing and proposed improvements to the bicycle network within and between the three sites. Current NPS regulations on bicycle use within units of the national park system limit the use of bicycles to park roads¹, parking areas, and routes designated for bicycle use. If bicycles are to be used in areas outside developed areas and special use zones, a special regulation specific to the individual unit of the national park system must be adopted. In December of 2008 the NPS developed a proposed rule governing bicycle use that would allow superintendents to designate existing trails for bicycle use outside of developed areas and special use zones rather than requiring the promulgation of special regulations. Until that regulation is finalized, the current regulations governing bicycle use contained at 36 CFR 4.30 remain in effect; therefore, the expanded bicycle use within NPS boundaries may require a special regulation to be promulgated prior to implementation.

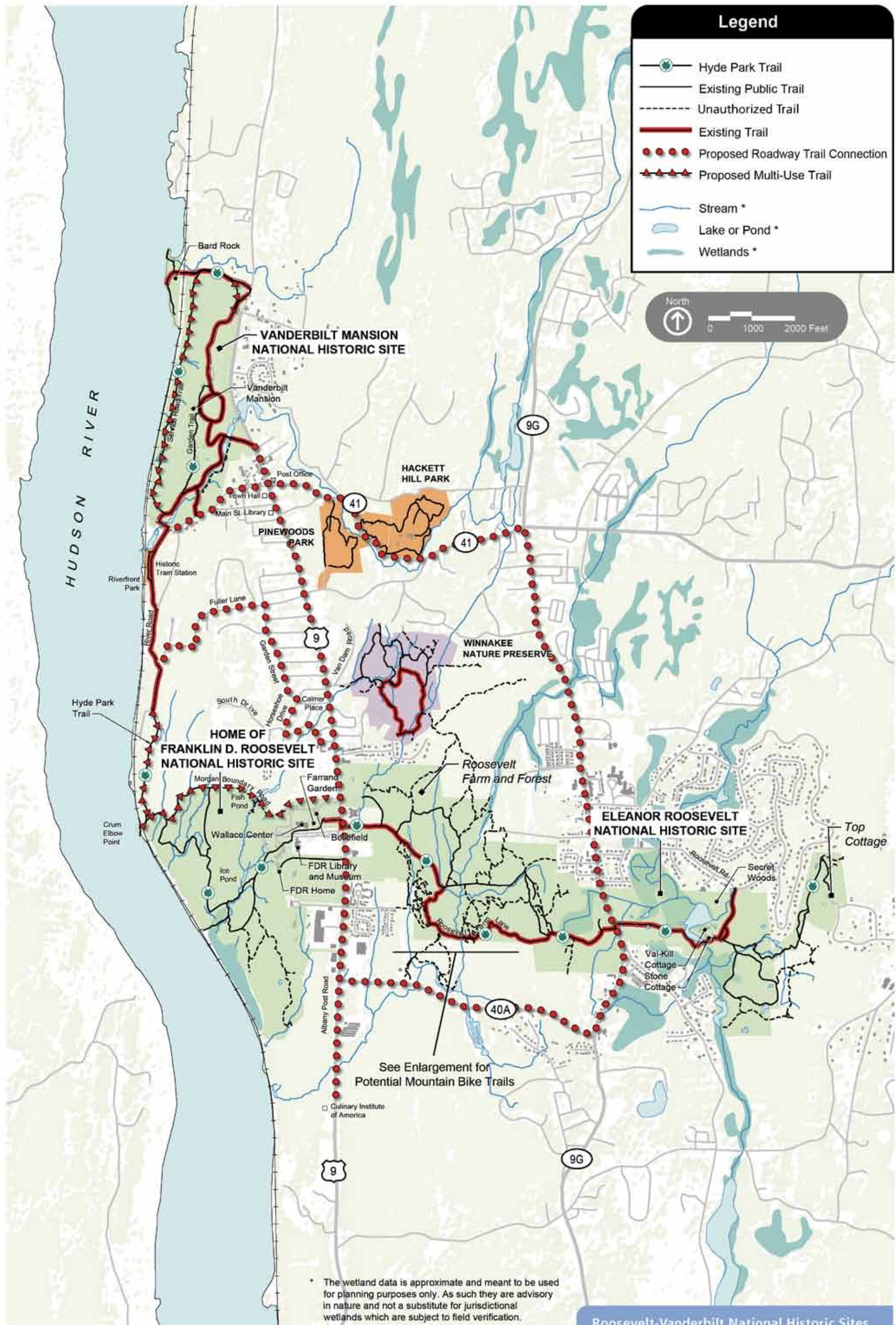
Several actions would apply to the overall utility of the trail system for bicyclists throughout and between the sites. The NPS would install wayfinding that directs users to destinations within the sites and would coordinate with relevant authorities to install signs outside NPS jurisdiction. NPS would also post signs to make all users aware of the shared roadway conditions and appropriate etiquette and would consider traffic calming where bicyclists share the roadway with motor vehicles to ensure motorists obey the 15 MPH speed limit.

Specific recommended improvements to the bicycle network at each site are described below.

Home of FDR National Historic Site

Under the proposed plan, the Home of FDR NHS would be opened to bicycle use through the establishment of a wider multi-use trail along 0.6 miles of the existing Forest Trail and a new link along the Morgan Boundary Road (0.8 miles). This would allow bicyclists to enter the site along the multi-use trail from the northwest, near the river, or from Route 9 (separate from the vehicle entrance they currently share).

¹ “Park roads” are defined in 36 CFR 1.4 as “the main-traveled surface of a roadway open to motor vehicles, owned, controlled or otherwise administered by the National Park Service.”



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Figure 8
Alternative B: Bicycle Routes



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New York

The Roosevelt Farm Lane would continue to be open to bicyclists March to November, although it would continue to be closed to bicyclists during hazardous winter conditions (December 1 to February 28). Improvements specific to single track mountain bike trails are discussed in the following section.

Eleanor Roosevelt National Historic Site

Bicyclist-oriented improvements at Eleanor Roosevelt NHS would be limited to the addition of wayfinding, orientation, and trailhead amenities discussed in other sections describing this alternative.

Vanderbilt Mansion National Historic Site

Under the trails plan, the NPS would open the Vanderbilt Service Road to bicycles to create a loop trail that provides bicycle access throughout the site.

Outside Roosevelt-Vanderbilt National Historic Site

Additional recommendations would need to be coordinated with other state and/or local agencies and/or private landowners. The Hyde Park Trail between the Vanderbilt Mansion NHS and the Home of FDR NHS could be opened to bicycles between the terminus of the on-road section on River Road and the boundary road as part of the multi-use trail. Additionally, the NPS would coordinate on-road bike improvements with the Town of Hyde Park, Dutchess County, and NYDOT to facilitate development of circulation and access routes that would link the sites to each other, as well as to regional destinations. Specifically, on-road improvements are needed on:

- Route 9 throughout Hyde Park to include improved shoulders, traffic calming, sidewalks, and access management
- Route 9G from Market Street south
- Market Street between River Road and Route 9G
- Route 40A between Routes 9 and 9G
- Hyde Park Trail between River Road and Albany Post Road to develop an on-road alternate route, possibly using Fuller Lane, Garden Street, Horseshoe Drive, and South Drive

NPS would also coordinate with the Town of Hyde Park, Dutchess County, and NYDOT to provide improved intersections at the intersection of the Eleanor Roosevelt NHS entrance at Route 9G (including the Hyde Park Trail crossing of Route 9G) for bicycle safety. The NPS would encourage installing a high-visibility crosswalk and/or advance warning signs.

MOUNTAIN BIKE TRAILS

Figure 9 includes potential improvements to re-establish and expand opportunities for mountain biking within the Roosevelt Farm and Forest. The existing sections shown on figure 3 are unauthorized; mountain biking is currently prohibited on these sections but has been observed by NPS staff in these areas. The proposed improvements would allow authorized mountain bike use in appropriate areas, helping to expand the visitor base for the sites, while also engaging a

valuable partner in the overall implementation of this alternative. The specific recommendations for potential mountain bike trails are described below.

Home of FDR National Historic Site

Through promulgation of special regulations, the NPS would re-establish access to mountain bike trail loops within the Roosevelt Farm and Forest using the Yellow, Red, and Blue trails and approximately 2.3 miles of the existing but currently unauthorized, single track trails. The remaining unauthorized trails (totaling approximately 2.8 miles) would remain closed and use would be discouraged through the use of physical barriers such as brush piles. In order to provide logical trail loops within NPS jurisdiction, four new trail connections (totaling approximately 0.5 miles) would be established in conjunction with the designation of existing unauthorized trails as authorized.

Eleanor Roosevelt National Historic Site

Mountain bike-oriented improvements at Eleanor Roosevelt NHS would be limited to the addition of wayfinding, orientation, and trailhead amenities discussed in other sections describing this alternative.

Vanderbilt Mansion National Historic Site

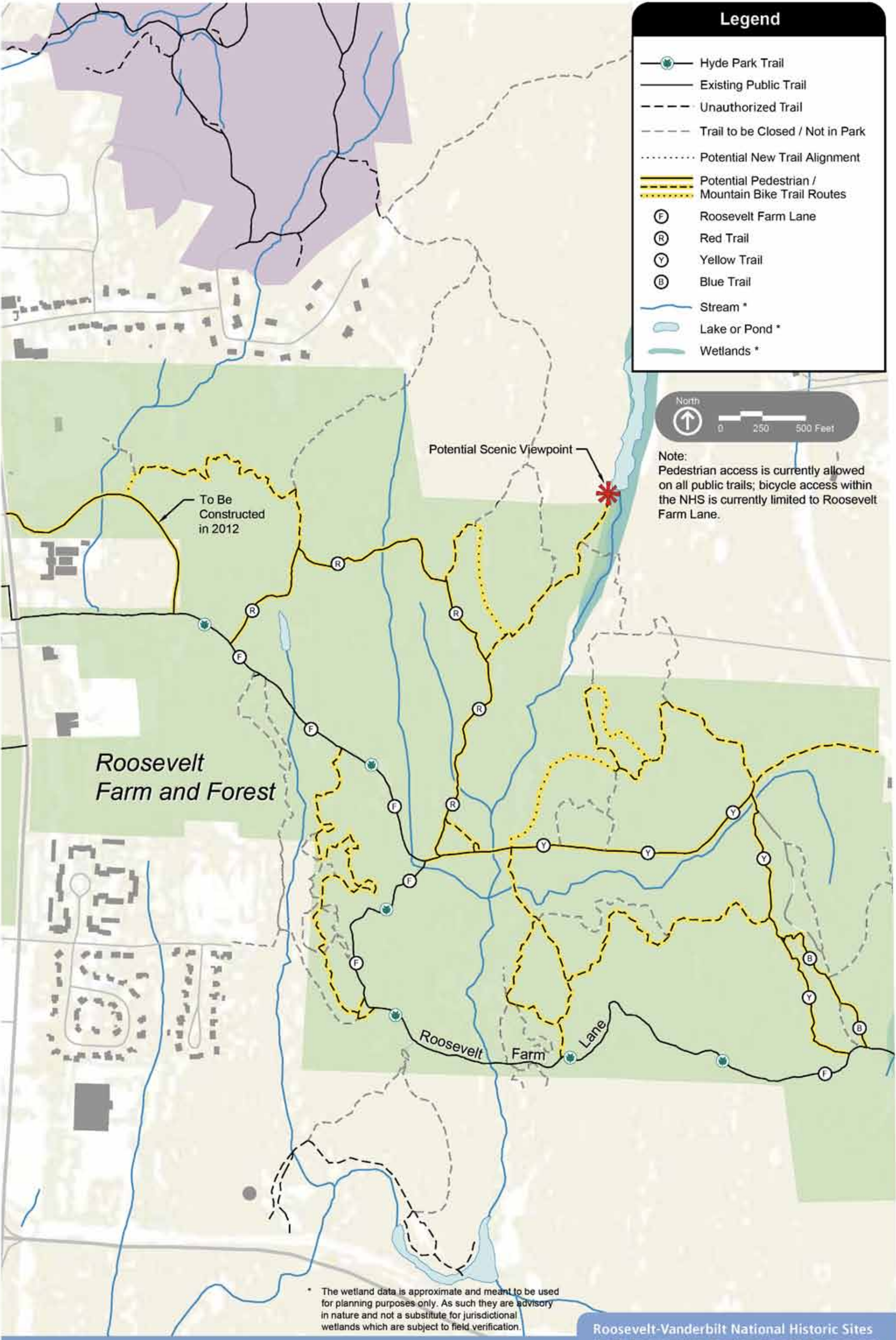
Mountain bike-oriented improvements at Vanderbilt Mansion NHS would be limited to the addition of wayfinding, orientation, and trailhead amenities discussed in other sections describing this alternative.

Outside Roosevelt-Vanderbilt National Historic Site

The NPS would also coordinate with property owners to the north and south of Roosevelt Farm and Forest as well as Central Hudson Gas & Electric to establish a large loop trail and access to the Winnakee Nature Preserve. Because this involves land outside the national historic site's authorized boundary, this would need to involve a land trust or other entity.

TRAILHEADS, ACCESS POINTS, AND TRAIL AMENITIES

Trailheads, access points, and amenities figure prominently in the recommendations for this master plan, and are identified on figure 10. These features provide visitors with a variety of enhanced experiences, from initial orientation and wayfinding to interpretive information. Trailheads would be scaled appropriately for the context and needs of the specific locations proposed. Additionally, there are locations throughout the trail network where visitors may enter or depart NPS property, and trailheads can serve as a gateway at such points. The plan includes identification of related intersection improvements to enhance and unify the overall trail system.



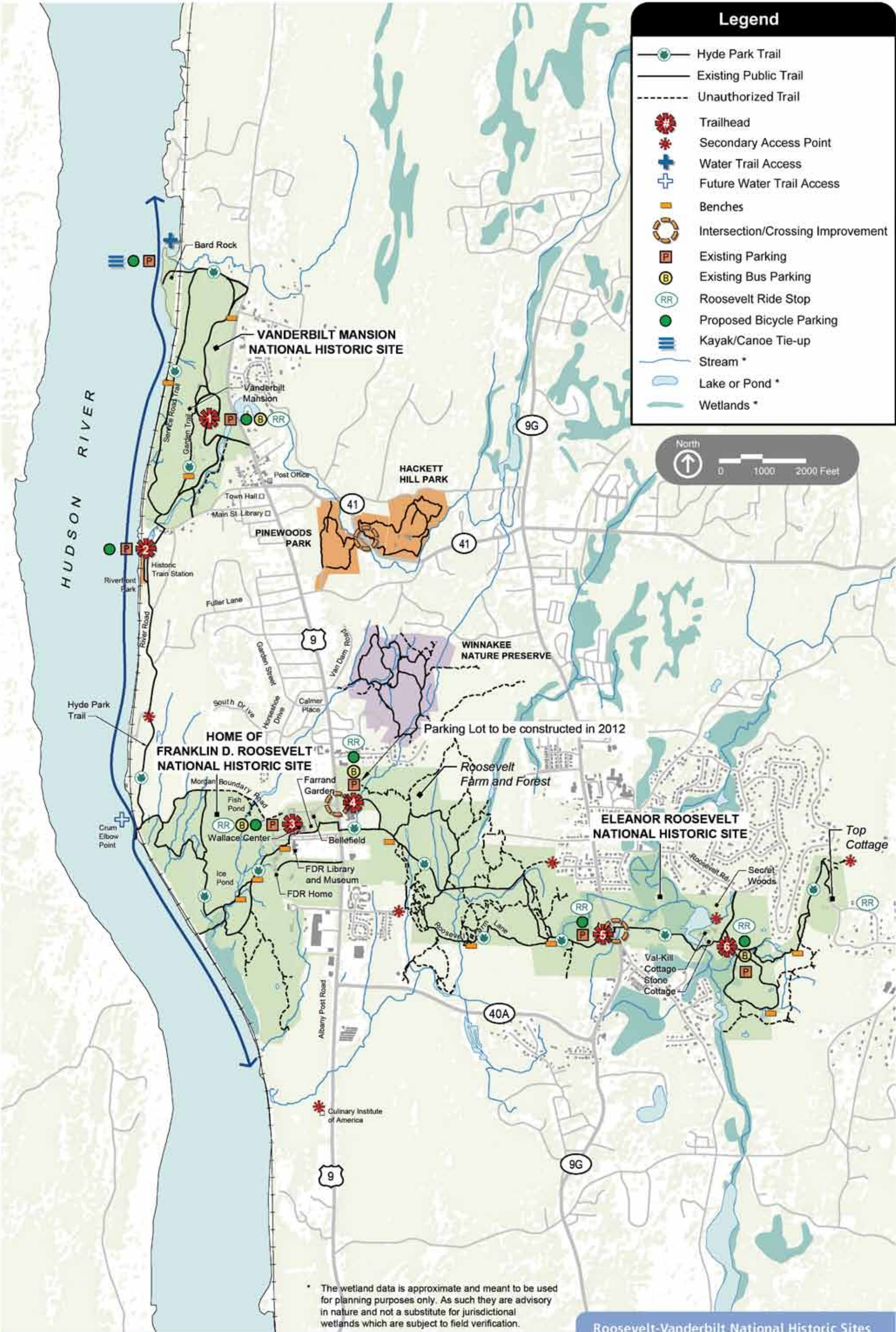
Roosevelt-Vanderbilt National Historic Sites
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Figure 9
Alternative B: Mountain Bike
and Pedestrian Trails



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Roosevelt-Vanderbilt National Historic Sites



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Figure 10
Alternative B: Trailheads, Access Points,
and Amenities



Throughout the trail system, the NPS would provide a number of general items:

- Standardized information on trail characteristics based on a UTAP to provide information about trail physical characteristics, thereby enabling users of all abilities to decide whether to undertake a particular trail
- Opportunities to stop and rest throughout the trail network to make bicyclist and pedestrian travel attractive options (such as the bench locations shown on figure 10)
- Easy to find, distinctive, and recognizable visitor orientation and information hubs (see the following sections for more specific implementation).
- Trail etiquette signs to inform visitors of the types of other users to expect and the yielding behaviors that are expected where multiple modes are allowed.
- Educational and interpretive features at key locations along the trail network such as along the driveway where FDR conducted his physical therapy.

The specific recommendations for trailheads, access points, and amenities for each site are described below. Additionally, table 2 below provides specific trailhead elements for each of the eight primary trailhead locations shown on figure 10. Table 3 shows the elements to be included at each secondary access point; in general these would benefit from uniform treatments, although two of the sites would not need NPS boundary markers.

TABLE 2. IMPROVED TRAILHEAD AMENITIES

Trailhead Location	1-Vanderbilt Mansion	2-Historic Train Station †	3-Wallace Center	4-Roosevelt Farm Lane (Western Terminus)	5-Roosevelt Farm Lane (Eastern Terminus)	6-Top Cottage/ Eleanor's Walk Trailhead‡
Kiosk with Maps	*	*	*	*	*	*
Directional Signage	*	*	*	*	*	*
Regulatory and Etiquette Signage	*	*	*	*	*	*
Vehicle Parking	*	*	*	*	*	*
Bus Parking	*		*	*		*
Bicycle Parking	*	*	*	*	*	*
Rest Room Facilities	*		*	*		* (seasonal)
Benches	*	*	*	*	*	*
Water Fountain	*		*	*		* (seasonal)

† this trailhead is located outside NPS jurisdiction

‡ these trailhead amenities include those offered at the historic core of the site

TABLE 3. SECONDARY ACCESS POINTS

Location	1-River Road	2-Culinary Institute of America	3-Roosevelt Farm and Forest West	4- Roosevelt Farm and Forest East	5-Roosevelt Road	6-Top Cottage
Sign with Map	*	*	*	*	*	*
Directional Signage	*	*	*	*	*	*
Regulatory and Etiquette Signage	*	*	*	*	*	*
Park Boundary Marker			*	*	*	*
UTAP/Accessibility Message	*	*	*	*	*	*

Home of FDR National Historic Site

Under the proposed Trails Master Plan, new trailheads with enhanced orientation would take the form of the following:

- A trailhead and kiosk near the FDR Library and Wallace Center for orientation to and trail information for the Home of FDR NHS.
- Trailheads or gateway treatments at points of entry including at the northern boundary on the Hyde Park Trail, two neighborhood access points at the Roosevelt Farm and Forest, and at the southern boundary with the Culinary Institute of America.
- Enhanced infrastructure to improve the trailhead at the eastern entrance to the Roosevelt Farm and Forest off of Route 9G with the addition of an informational kiosk, signs, and benches.

Additionally, secure bicycle parking would continue to be provided at the Wallace Center and at either end of Roosevelt Farm Lane.

As part of the improvements currently identified for the Hyde Park Drive-In site, a primary trailhead and kiosk would be installed at the new Roosevelt Farm Lane trailhead parking and would feature comprehensive site and trail system information. Secure bicycle parking would also be installed at this location. (These improvements are considered a cumulative action for the purpose of impact analysis because these improvements have been approved in a separate EA prior to the development of this plan/EA; however, these improvements are mentioned here to provide a more comprehensive understanding of the Trails Master Plan.)

Eleanor Roosevelt NHS

Under the proposed Trails Master Plan, new trailheads with enhanced orientation would take the form of the following:

- Enhanced infrastructure to incorporate a trailhead at the parking area of the Eleanor Roosevelt NHS to serve as a departure point, orientation, and provide initial interpretive information for the variety of trails within the sites.
- Gateway treatments at two neighborhood/secondary access locations.

Additionally, secure bicycle parking would be provided at the Val-Kill parking lot.

Vanderbilt Mansion National Historic Site

Under the proposed Trails Master Plan, new trailheads with enhanced orientation would take the form of the following:

- Enhanced infrastructure to establish a trailhead at the Vanderbilt Mansion.
- Improved wayfinding at Bard Rock for visitors arriving via the water trail.
- Designation of Bard Rock as an undeveloped day-use site on the Hudson River Greenways Water Trail.
- Installation of canoe/kayak amenities, such as posts to which boats could be chained for security at Bard Rock.

Additionally, secure bicycle parking would be provided at Bard Rock and would continue to be provided at Vanderbilt Mansion.

Outside Vanderbilt-Roosevelt National Historic Sites

Under the proposed plan, the NPS would coordinate with other relevant agencies and/or organizations to provide a trailhead with information display and bicycle parking at the historic train station on River Road.

ACCESSIBLE TRAIL EXPERIENCES

The design guidelines included in appendix B identify the issues to be considered and resources to be consulted in developing accessible routes to the primary destinations at the sites. This section describes routes of potential development of accessible routes at each site, while also identifying accessibility constraints and needs for further design work. This section is not intended to limit efforts to expand accessibility, only to identify priority routes and destinations. The existing topography and natural and cultural resources at each site may limit the provision of accessible routes. During development of trail routes, NPS may need to align the trail in such a way as to avoid cultural resources or to provide switchbacks to keep grades at an acceptable level. Assessment of these routes should coincide with the UTAP recommended herein.

Home of FDR NHS

The NPS would consider a route along the FDR Home driveway to help interpret FDR's physical rehabilitation. To further develop an accessible route, and pending the results of the UTAP, the NPS would investigate the potential to use existing access drives and sidewalks to connect the driveway to the accessible parking at the Wallace Center.

The NPS would also assess the potential for accessibility improvements along Roosevelt Farm Lane, from the trailheads at each end of the trail. Seeking to provide access to forest plantations and other interpretive destinations, the existing topography and natural resource constraints would require detailed survey and design work to determine feasible improvements.

Eleanor Roosevelt NHS

The NPS would investigate the potential for accessibility improvements around Top Cottage to provide access to the structure and the rear porch. Potential cultural resource impacts represent the primary constraint and would require detailed design work. In addition, the proposed Secret Woods trail would provide an opportunity to establish a universally accessible route at this site.

Vanderbilt Mansion NHS

Existing roads and trails at Vanderbilt Mansion NHS offer the potential to establish an accessible route between the mansion and the formal gardens, although an assessment of existing conditions, including grade changes, would be needed. It should be noted that the gardens include tiers and stairs.

MITIGATION MEASURES

To minimize environmental impacts related to the action alternatives, the NPS would implement mitigation measures whenever feasible. The Trails Master Plan recommends a number of management actions to support the proposed trail improvements, such as the following items:

- Establish trail maintenance practices to address potential erosion along steep slopes within the sites given the inability to realign historic trails. Develop a maintenance plan for the existing trails and evaluate the feasibility of minor trail realignments or grade reversal to minimize erosion.
- Minimize disruption of the scenic qualities and cultural landscapes of the national historic sites through careful, strategic placement of interpretive signs, kiosks, and other visitor amenities. Although some low-profile interpretive waysides would be appropriate in locations throughout the historic sites, limit these to key locations. Visitor orientation and information hubs can double as places to provide interpretation about the sites (about elements visible from the hub). Use of electronic media can also minimize the concern of having too many signs in the landscape.
- Minimize visitor conflicts through use of trail etiquette educational materials posted throughout the sites.
- Coordinate trail building, maintenance, and education workshops through volunteer and stakeholder groups, such as Fats in the Cats, to build a stewardship base.

Although the exact mitigation measures to be implemented would depend upon the final design and approval of plans by relevant agencies, the following is a list of more specific actions that could take place:

- During grading, standard erosion control measures such as use of sediment fencing or wattles (i.e., bundles of sticks) would be used, as appropriate. If the area of disturbance is large enough to warrant it, an approved sediment and erosion control plan would be implemented.
- Any trees removed for establishment of the widened multi-use trail would be considered for reuse within the sites either to block access to unauthorized trails, control erosion, or any other appropriate resource management application.
- Prior to construction of trail improvements, the NPS would conduct additional survey for archeological resources. If any archeological resources are encountered, the NPS would consult with the SHPO to ensure that any impacts to archeological are minimized in accordance with the NHPA.

ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

The options for improving the trails within the Roosevelt-Vanderbilt National Historic Sites were narrowed through internal scoping, meetings with NPS representatives, and meetings with the public. During this process, the objectives of the project and the planning issues were kept in mind. Several elements that could have been included but that were dismissed from further analysis are described below.

ADDITIONAL WATER ACCESS POINTS

During development of the Trails Master Plan, the team considered adding several additional trailheads along the Hudson River for water trail access; however, during further discussion, these elements were dismissed due to safety concerns associated with the proposed sites.

SUMMARY COMPARISON OF THE ALTERNATIVES

Table 4 provides a summary of the alternatives presented above.

TABLE 4: SUMMARY OF ALTERNATIVES

Alternative Element	Alternative A: No-action	Alternative B: Proposed Trails Master Plan
Pedestrian Routes	Existing pedestrian access would remain, but no connectivity or wayfinding improvements would be made.	New connections would be made and authorized access would be granted to help complete the pedestrian network; wayfinding improvements; pedestrian links between the sites and to adjacent non-NPS trails and destinations would be established and/or enhanced.
Home of FDR NHS	Pedestrian use of existing authorized trails would continue throughout the Home of FDR NHS (including Roosevelt Farm and Forest); it is likely that pedestrian use of unauthorized trails would also continue.	New trail connections, designation of certain unauthorized trails as authorized, closure of certain unauthorized trails, and enhanced wayfinding.
Eleanor Roosevelt NHS	Existing pedestrian access would remain unchanged.	The addition of a Secret Woods trail loop, combined with enhanced wayfinding.
Vanderbilt Mansion NHS	Existing pedestrian access would remain unchanged.	Enhanced wayfinding.
Bike Routes	Existing bicycle access would remain, but no connectivity or wayfinding improvements would be made.	New connections would be made and authorized access would be granted to help complete the bicycle network; wayfinding improvements; trail links between the sites and to adjacent non-NPS trails and destinations would be established and/or enhanced.
Home of FDR NHS	Bicycling use would continue to be limited to Roosevelt Farm Lane.	Establishment of new multi-use trails, combined with opening sections of the Hyde Park Trail and Forest Trail to bicycle use, and the implementation of enhanced wayfinding, would help complete a bicycle network at the Home of FDR NHS.
Eleanor Roosevelt NHS	Existing bicycle access would remain unchanged.	Bicycle routes would not change; wayfinding would be enhanced.
Vanderbilt Mansion NHS	Existing bicycle access would remain unchanged.	Certain pedestrian-only trail routes (including the Service Road Trail) would be opened to bicycle use; combined with enhanced wayfinding, this would help create bicycle loops and improve the bicycle network.

TABLE 4: SUMMARY OF ALTERNATIVES (CONTINUED)

Alternative Element	Alternative A: No-action	Alternative B: Proposed Trails Master Plan
Pedestrian/Mountain Bike Trails (Roosevelt Farm and Forest)	Bicycle access at Roosevelt Farm and Forest would continue to be limited to Roosevelt Farm Lane.	The Red Trail, Yellow Trail, and Blue Trail would be opened to mountain bike access. Several small new trail connections would help create pedestrian/bike loops, certain sections of unauthorized trails would be opened to pedestrian/bike use, and certain sections of unauthorized trails would be closed. These improvements, combined with enhanced wayfinding, would create a pedestrian/mountain bike network at Roosevelt Farm and Forest.
Trailheads and Kiosks	With the improved intersection and crossing of Albany Post Road at the entrance to the Home of FDR, the envisioned Hudson Valley Welcome Center would be closer to being realized. However there are no other plans for gateways, trailhead improvements, or kiosks.	Multiple trailheads and/or kiosks would be established to aid visitors in self-guided tours, wayfinding, and orientation.
Trailhead #1: Vanderbilt Mansion	Parking, including bus parking and bicycle parking, would remain. Existing amenities would continue. However, no improvements would be made to incorporate the site as a primary network trailhead.	Unified signs and wayfinding information would be provided. Access to existing visitor amenities would be emphasized as an integral part of the trail network.
Trailhead #2: Historic Train Station	No enhancements would be made at the train station.	Bicycle parking would be added, and the site would be formally incorporated into the trail network by means of new signs and wayfinding information.
Trailhead #3: Wallace Center	Existing parking, bus parking, bicycle parking, and visitor center amenities would remain, but no enhancements would be made to incorporate the facilities into the overall trail network.	Capitalizing on existing amenities and adding signs and wayfinding information, the site would become a primary network trailhead.
Trailhead #4: Roosevelt Farm Lane (Western Terminus)	Newly constructed (2012) amenities would provide primary trailhead.	Additional signs and wayfinding information would more directly link the new trailhead to the rest of the system and other trailhead locations.
Trailhead #5: Roosevelt Farm Lane (Eastern Terminus)	Existing parking and bicycle parking would remain, but no enhancements would be made to incorporate the facilities into the overall trail network.	Capitalizing on existing amenities and adding signs, benches, and wayfinding information, the site would become a primary network trailhead.
Trailhead #6: Top Cottage/Eleanor's Walk	Existing parking, bus parking, bicycle parking, and visitor center amenities would remain, but no enhancements would be made to incorporate the facilities into the overall trail network.	Capitalizing on existing amenities, and adding signs and wayfinding information, the site would become a primary network trailhead.
Secondary Access Orientation	Secondary access points to the sites would continue to be generally unsigned.	The NPS would provide signs introducing visitors to the sites at secondary access points.

TABLE 4: SUMMARY OF ALTERNATIVES (CONTINUED)

Alternative Element	Alternative A: No-action	Alternative B: Proposed Trails Master Plan
Enhanced User Experience	Under the current uses there would be few opportunities for enhancing the user experience.	Trails would provide expanded access within the sites, and new connections could bring visitors to additional cultural attractions within the sites. The trails would also serve to facilitate self-guided tours as well as facilitating new interpretation and educational opportunities that use the trail system.
Interpretation	Interpretation would continue to be limited to the Hyde Park Explorer cell phone tour and limited signs.	In addition to the existing resources, the NPS would provide additional interpretive opportunities at locations along the trail system. Benches would be offered at these locations.
Wayfinding and Orientation	Limited to existing maps and visitor center resources.	Wayfinding and orientation resources would be provided throughout the sites and trail system to assist visitors in self-guided tours and interpretation.
Amenities	Some additional amenities would likely be installed over time as deemed needed.	Variety of amenities would be deployed, potentially including bike parking, kayak and paddler equipment storage, bike sharing/rental, maps with details such as trail slopes and surface type, picnic facilities, and rest areas (benches, water).
Accessibility	Although the buildings at the sites are accessible, the trail system would not offer designated accessible routes.	Specific accessible routes would be offered at strategic locations throughout the sites. Benches would be offered frequently along these routes.
Trail Maintenance, Alteration, and Rerouting	Trail maintenance would continue to occur as needs are identified. No formal maintenance plan exists, and conditions may not be routinely evaluated.	Erosion prevention/mitigation, management of trail use and user conflicts, including redesign of some trails for multiple or new uses, and improved stewardship and volunteer programs would be developed to increase local volunteer engagement and maintenance.
Roadway Improvements	Roadway improvements would take place on an as-needed basis when time and funding becomes available.	NPS would undertake a greater level of effort to coordinate with relevant agencies and private landowners to improve roadway crossings, on-road bicycle and pedestrian improvements, access management, and traffic calming would result in improvements for non-motorized mobility throughout the sites.
Promotion of Sites and Trail Network	Promotion of the sites and trail network would remain at existing levels.	Special events (new and existing) would generate new and return visitors, leverage economic development and tourism opportunities, and promotion to international visitors and active vacationers.
Improvements Outside NPS Jurisdiction	NPS would coordinate with relevant agencies as possible to provide basic safety improvements at the Routes 9 and 9G crossings as time and funding are available.	NPS would undertake a greater level of effort to coordinate with relevant agencies and private landowners to improve roadway crossings, on-road bicycle and pedestrian improvements, access management, and traffic calming.

TABLE 4: SUMMARY OF ALTERNATIVES (CONTINUED)

Alternative Element	Alternative A: No-action	Alternative B: Proposed Trails Master Plan
Meets Purpose and Need?	No. Marginal improvements would be made, but the existing uses and trail system would largely continue as it exists currently. Enhanced user experience and opportunities for education and interpretation would be limited.	Yes.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 5 provides a summary of the environmental consequences related to each alternative. A more detailed explanation of the impacts is presented in “Chapter 4: Environmental Consequences.”

TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Resource	Alternative A: No-action	Alternative B: Proposed Trails Master Plan
Visitor Use and Experience	<p>The existing trail system would continue to offer a wide range of options for pedestrian use through the sites; however, the existing interpretation of the abundant natural and cultural resources at the sites would remain limited to the existing signs and the Hyde Park Explorer cell phone tour.</p> <p>Bicycle use would remain limited to site roads, which limits access to the central areas of each site. Mountain bike use would continue to be allowed along the Roosevelt Farm Lane; however, some mountain bikers may continue to use the unauthorized network of mountain bike trails in the Roosevelt Farm and Forest. Such use is prohibited by NPS regulations (36 CFR 4.30).</p> <p>Visitors using the water access at Bard Rock would not be provided with any orientation, wayfinding, or interpretive materials. There would be no orientation to the sites is provided for those visitors accessing the sites from the water trail.</p> <p>Connections between sites would continue to cause safety concerns for visitors wishing to travel between sites on foot or by bicycle due to the lack of continuous accommodation on local roadways.</p> <p>Overall Impact: Long-term, moderate, adverse</p> <p>Cumulative Impact: Would contribute an appreciable adverse increment to a long-term, beneficial cumulative impact</p>	<p>Due to the addition of new trail connections and additional opportunities for bicycle access throughout the sites, a wider range of uses could be enjoyed throughout the sites. The addition of 2.8 miles of authorized mountain bike trails would reduce (if not eliminate) use of unauthorized trails.</p> <p>Additional interpretation at the trailheads and along the trails would enhance visitor understand of the sites’ abundant natural and cultural resources. For instance, a short loop trail through the historic plantation known as the Secret Woods would provide visitors with an opportunity to enjoy the peaceful setting where Eleanor Roosevelt is thought to have read to her children. Additional benches would be added along the trails, especially at areas targeted for interpretation and/or universal accessibility.</p> <p>Additional facilities at Bard Rock would provide visitors using the site as a boat landing with orientation to the sites and would provide secure boat storage for these visitors.</p> <p>Introduction to park regulations would be uniformly presented at a number of secondary access points to more clearly orient visitors.</p> <p>Connections between the sites would be improved with the provision of continuous sidewalks and improved signs to ensure that drivers are aware of pedestrians and bicyclists.</p> <p>Overall Impact: Long-term, beneficial</p> <p>Cumulative Impact: Would contribute an appreciable beneficial increment to a long-term, beneficial cumulative impact</p>

TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES (CONTINUED)

Soils and Topography	<p>Compaction and erosion would continue to take place along the 15 miles of existing trails as well as along the 5.1 miles of unauthorized trails used by mountain bikes in the Roosevelt Farm and Forest.</p> <p>Overall Impact: Long-term, minor, adverse</p> <p>Cumulative Impact: Would contribute an imperceptible adverse increment to a long-term, minor, adverse cumulative impact</p>	<p>During construction of 1.6 miles of new trails, soils would be exposed and vulnerable to erosion because of minor grading and vegetation removal. The total acreage of this disturbance would be approximately 2.4 acres along this distance.</p> <p>Some widening and grading may also take place the 3.1 miles of existing unauthorized trails that would become part of the authorized trail system and the 2.2 miles of trails that would be widened; however, these impacts would be of a lesser intensity than required when creating a new trail.</p> <p>Compaction and erosion of soils along the existing 15 miles of trails would continue, compaction and erosion along the 3.1 miles of unauthorized trails becoming authorized would increase, and compaction and erosion of the 1.6 miles of new trails would be introduced.</p> <p>Physically blocking the remaining use of 2.8 miles of unauthorized trails and providing a network of authorized mountain bike trails in the vicinity would remove the compaction and erosion currently caused by unauthorized use on approximately 1 acre of soils.</p> <p>Overall Impact: Short-term, minor, adverse; Long-term, negligible, adverse, and Long-term, beneficial</p> <p>Cumulative Impact: Would contribute a noticeable adverse impact to a long-term, minor, adverse cumulative impact</p>
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TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES (CONTINUED)

<p>Water Resources</p>	<p>Along the existing authorized trails network, all water crossings take place on bridges of varying scale. Otherwise, streams may be channeled through culverts under some roadways that are also included in the trail system. The impacts of this continued condition would be localized shading of streams beds, which could cause some change in stream vegetation. Also, channeled hydrology may cause some erosion due to increased flow rates during storm events.</p> <p>Also, there are two locations within the Roosevelt Farm forest where unauthorized trails may cross streams without the aid of a bridge. In these cases, unauthorized use of these trails has the potential to cause compaction and erosion of the stream bed and can cause soil erosion from nearby trail use to run directly into streams.</p> <p>Overall Impact: Long-term, minor, adverse</p> <p>Cumulative Impact: Would contribute a noticeable adverse increment to a long-term, minor, adverse cumulative impact</p>	<p>In addition to the existing water crossings, a few new water crossings would be added as part of the new authorized trail additions. A 10-foot wide timber-pile supported boardwalk-type structure would be constructed for this crossing. If a crossing is required for the Ice Pond to Fish Pond connection, it would be of a similar construction. A 5-foot wide version would be used to cross the stream separating Carlyle Road from the Secret Woods. Some shading may be associated with these structures, although this could be reduced through use of design considerations. There may be small amounts of soil disturbance adjacent to streams during construction of these crossings and may result in temporary, locally detectable increases in turbidity.</p> <p>Along the new mountain bike network of trails, the existing unauthorized trail crossing across a tributary to Maritje Kill south of the Yellow Trail would be formalized with a simple wooden structure to prevent direct impacts to the stream bed. Some shading may occur as a result of the bridge placement, although it would only be a few feet wide. The unauthorized crossing of Maritje Kill near the northern border of the site would be blocked from additional use.</p> <p>Overall Impact: Short-term, minor, adverse; Long-term minor, adverse; Long-term, beneficial</p> <p>Cumulative Impact: Would contribute a noticeable adverse increment to a long-term, minor, adverse cumulative impact</p>
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TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES (CONTINUED)

<p>Wetlands</p>	<p>No impacts to wetlands are anticipated associated with the authorized trail system; however, an unauthorized mountain bike trail in the northern portion of the Roosevelt Farm and Forest travels through approximately 500 feet of emergent marsh wetlands associated with Maritje Kill. Use of this unauthorized trail would continue to cause soil compaction and erosion and trampling wetland vegetation along this trail.</p> <p>Overall Impact: Long-term, minor, adverse</p> <p>Cumulative Impact: Would contribute a noticeable adverse increment to a long-term, minor, adverse cumulative impact</p>	<p>The unauthorized trail that currently crosses a wetland in the northern portion of the Roosevelt Farm and Forest would be physically blocked to prevent continued use. The provision of an authorized trail network for mountain bikes under this alternative would further decrease the likelihood of ongoing unauthorized trail use. Impacts from trail use on this wetland are expected to cease.</p> <p>There may be impacts on up to 0.02 acres of paulustrine forested wetlands due to construction of the new Secret Woods Trail; however, a wetland delineation would take place during design of this trail, and efforts would be made to avoid impacting wetlands where possible. Impacts would be limited to minor soil disturbance during installation of timbers to support a boardwalk and some shading due to up to 200 feet of 5-foot wide boardwalk.</p> <p>Overall Impact: Long-term, beneficial Long-term, negligible to minor, adverse impacts</p> <p>Cumulative Impact: Would contribute an imperceptible to noticeable adverse increment to a long-term, negligible to minor, adverse cumulative impact</p>
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TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES (CONTINUED)

Archeological Resources	<p>Continued use of 5.1 miles of unauthorized trails in the Roosevelt Farm and Forest would have the potential to uncover and disturb archeological resources.</p> <p>Overall Impact: Long-term, negligible to minor, adverse</p> <p>Cumulative Impact: Would contribute an imperceptible adverse increment to a long-term, negligible to minor, adverse cumulative impact</p>	<p>During construction of 1.6 miles of new trails, disturbance of soils during grading and/or vegetation removal would have the potential to uncover and disturb archeological resources in an area of approximately 2.4 linear acres.</p> <p>Some grading and/or vegetation removal may also take place along the 3.1 miles of existing unauthorized trails that would become part of the authorized trail system and the 2.2 miles of trails that would be widened; however, these impacts would be of a lesser intensity than required when creating a new trail.</p> <p>Physically blocking the remaining 2.8 miles of unauthorized trails and providing a network of authorized mountain bike trails in the vicinity would remove the potential for disturbance of archeological resources caused by unauthorized use on approximately 1 acre of soils.</p> <p>Overall Impact: Long-term, negligible to minor, adverse; Long-term, beneficial</p> <p>Cumulative Impact: Would contribute a noticeable adverse increment to a long-term, negligible to minor, adverse cumulative impact</p>
Cultural Landscapes	<p>The existing 15 miles of trails would continue to provide circulation through the cultural landscape. Interpretation would be provided mostly by the Hyde Park Explorer cell phone tour.</p> <p>Overall Impact: Long-term, negligible, adverse</p> <p>Cumulative Impact: None</p>	<p>Due to the addition of new trail connections and additional opportunities for bicycle access throughout the sites, a wider range of uses could be enjoyed throughout the sites.</p> <p>Additional interpretation at the trailheads and along the trails would enhance visitor understanding and appreciation of the cultural landscape.</p> <p>The addition of trails throughout the system is not anticipated to alter the contributing features of the cultural landscapes.</p> <p>Overall Impact: Long-term, beneficial</p> <p>Cumulative Impact: None</p>

TABLE 5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES (CONTINUED)

<p>Operations and Infrastructure</p>	<p>NPS staff and volunteers would continue to maintain the 15 miles of existing trails and shared roadways, as time and funding allow. Trail conditions and allowed uses along them would continue to vary. NPS staff would continue to enforce closure of unauthorized trails; this is an issue in particular in the Roosevelt Farm and Forest where 5.1 miles of unauthorized trails see relatively frequent unauthorized use by mountain bikers.</p> <p>Overall Impact: Long-term, minor, adverse impacts</p> <p>Cumulative Impact: Would contribute an imperceptible adverse increment to a long-term, beneficial cumulative impact</p>	<p>The NPS would construct a total of 1.3 miles of new trails, would establish as authorized 3.1 miles of exiting unauthorized trails, and would widen 2.2 miles of trails. These new trails would increase the efficiency of circulation through the sites and would allow greater access for bicyclists. The addition of secure boat storage at Bard Rock would allow visitors to access the site via the Hudson River.</p> <p>Additionally, the NPS would physically block additional use of 2.8 miles of unauthorized mountain bike trails in the Roosevelt Farm and Forest. This would reduce the effort required to enforce closure of these trails.</p> <p>The addition of new trails and trail segments is expected to increase operational needs in the areas of law enforcement, maintenance, and interpretation while improvements in visitor information, trail surfaces and widths, however, are expected to increase visitor safety and lessen the need for maintenance.</p> <p>Overall Impact: Long-term, beneficial and long-term, minor, adverse</p> <p>Cumulative Impact: Would contribute a noticeable beneficial increment to a long-term, beneficial cumulative impact</p>
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ENVIRONMENTALLY PREFERRED ALTERNATIVE

The CEQ defines the environmentally preferred alternative as "the alternative that will promote the national environmental policy as expressed in NEPA's section 101." In NEPA's Forty Most Asked Questions, CEQ further clarifies the identification of the environmentally preferred alternative, stating "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a). Based on the analysis of environmental consequences of each alternative presented in chapter 4 and summarized in table 4 above, alternative B is the environmentally preferred alternative. Although the 1.6 miles of new trails under alternative B would require additional impacts on soils and vegetation, the NPS would reduce damage to the overall biological and physical environment. Reduction of impacts would be achieved by physically blocking 2.8 miles existing unauthorized miles that currently see unauthorized use by mountain bikers and by avoiding sensitive resources such as wetlands and implementation of trail design standards to reduce impacts such as erosion.

NPS PREFERRED ALTERNATIVE

Alternative B also was selected as the NPS preferred alternative because of the way in which it maintains and improves protection of natural resources while providing improved circulation both within and between sites and improving opportunities for visitors to understand the natural and cultural resources of the sites. Although, alternative B would result in long-term, adverse impacts on soils and topography, wetlands, water resources, archeological resources due to the new construction and designation of trails, these impacts would be outweighed by the beneficial impacts on visitor use and experience, soils and topography, water resources, wetlands, vegetation, archeological resources, cultural landscapes, and operations and infrastructure. By providing authorized trail opportunities for mountain bikers and by physically blocking the remaining unauthorized trails within the Roosevelt Farm and Forest, NPS managers would be reducing if not eliminating the use of those unauthorized trails while providing the improved circulation mentioned above. Additional interpretive waysides also would increase visitor understanding and appreciation of the natural and cultural resources for which the sites were established. Therefore, alternative B has been identified as the NPS preferred alternative.

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AFFECTED ENVIRONMENT

Roosevelt-Vanderbilt National Historic Sites include three separate national historic sites, totaling 1,100 acres of federally owned land, along the east bank of the Hudson River in Hyde Park, NY. The NPS is proposing to develop a plan for a comprehensive, well-designed sustainable trail system that provides a variety of visitor experiences uniquely suited to the sites' resources and that supports the purposes for which the sites were established. The proposed actions are confined to the study area defined in Chapter 1 and outlined in Figure 2. Organized by resource topic, this chapter describes the resources that could be impacted by the proposed action. Resources examined in detail include visitor use and experience, soils and topography, water resources, wetlands, vegetation, archeological resources, cultural landscapes, and operations and infrastructure. Resources dismissed from further analysis are discussed in "Chapter 1: Purpose and Need."

VISITOR USE AND EXPERIENCE

Visitors to the Roosevelt-Vanderbilt National Historic Sites come to the sites to find opportunities for commemoration, contemplation, and appreciation of the influential Americans who resided there. Combined, the sites receive a total of more than 500,000 visits each year (NPS 2011). Many visitors see several of the sites in one visit. For example, of 120 parties interviewed who toured the Home of FDR, 36 also toured Eleanor Roosevelt NHS, 58 also toured Vanderbilt Mansion, and 15 also toured Top Cottage. The survey also found that visitors to the Roosevelt-Vanderbilt sites tend to be older. Over 44% of visitors are between the ages of 40 and 64, and nearly 36% are above age 65 (NPS 2009).

The grounds of the three sites are open to the public and offer opportunities for enjoyment of the setting and landscape, keeping with the historic residents' use of the properties. Visitors can experience the sites through guided tours of the historic homes, enjoying the trails, and through special events, programs, and exhibitions. The authorized trail network offers approximately 11 miles of opportunities for visitors to enjoy the scenic beauty of the Hudson River and the fields, forests, and historic trails and roads within the national historic sites.

Depending on the season, site trails are used by hikers, joggers, birders, bicyclists, cross-country skiers, and snowshoers. The trail system, though extensive, is generally under-utilized (NPS 2009). The trail system varies considerably from site to site, and in many cases there is variation within the sites themselves. Though many of the trails are contiguous and connected, the trail surfaces and the types of use that are allowed (e.g. walking, bicycling, driving) vary considerably

and may change abruptly along some trail segments without provision of alternate routes. There is also little wayfinding and few interpretive elements to enhance the visitor experience as they travel throughout the sites. The existing interpretive opportunities are highlighted in the site-by-site description of the trails below.

Pedestrian access is allowed on all authorized trails. NPS regulations allow biking on most but not all site roads, including the recently rehabilitated farm route, Roosevelt Farm Lane. Equestrian use is generally prohibited, but may be granted by permit and motorized uses are prohibited outside of the paved roads within the sites (all-terrain vehicle [ATV] use is prohibited throughout the sites). All three sites have a combination of three primary trail types:

- Shared roadway routes, consisting of paved roads that allow for shared use by motor vehicles, bicyclists, and pedestrians
- Unpaved service roads that allow both pedestrian and bicycle use
- Unpaved trails, including primitive “single track” hiking trails, “double track” trails, and unpaved service roads that are authorized only for foot travel

Double track trails, so named since they consist of two wheel tracks or a single wide trail tread, provide visitors with a trail that typically consists of a well-packed soil and stone surface and is usually easily accessible on foot. Double track trails can provide hikers, walkers, runners and bicyclists with routes that access the many natural areas of the sites without being too challenging.

Single track trails, so named for their narrow tread that is the width of a single user, are the most rustic type of trail and are most often used by hikers or mountain bikers. They can vary from a smooth, groomed surface to very technical trails with rocky surfaces and twisting routes. Many of the off-road trails within the sites include both single track and double track segments, though the authorized trails tend to be primarily double tracks and the unauthorized trails tend to be single tracks.

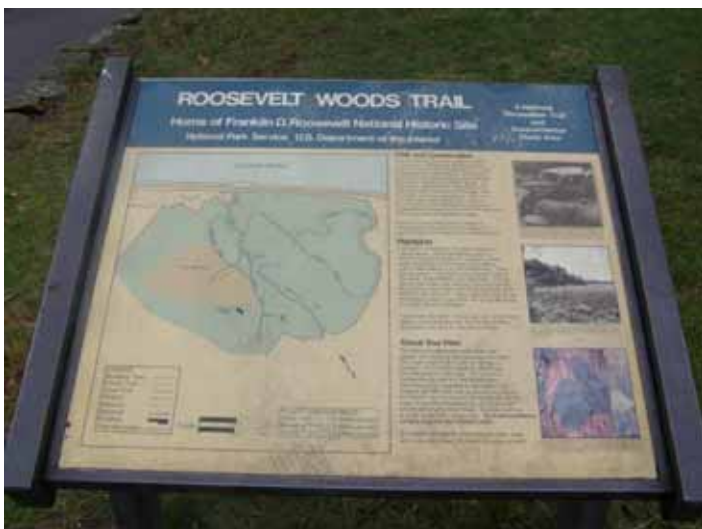
Established in 1991, the Hyde Park Trail currently stretches approximately 9 miles, connecting all three national historic sites. Though the Hyde Park Trail provides a continuous, linear trail connecting all of the sites the trail surface and conditions vary tremendously, from shared roadways to hiking trails, and the allowed users (modes) along the trail vary as well. There are five sections of the Hyde Park Trail that can be hiked together or separately: the Vanderbilt Loop (2.8 miles when including the Bard Rock spur), the Riverside Trail (1.8 miles outside the bounds of the National Historic Sites), the Roosevelt Trail (1.5 miles), the Roosevelt Farm Lane (1.8 miles), and the Top Cottage Trail (1.0 miles, excluding the 0.6 miles between the entrance to the Eleanor Roosevelt NHS and Top Cottage). The Hyde Park Trail is marked by white-and green markers with a tulip-tree leaf emblem. A number of trails either overlap with the Hyde Park Trail or branch off of it. The NPS provides wooden trail markers at trail intersections, which inform visitors about trail blaze color, lengths, and any noteworthy landmarks.



Wooden trail markers orient visitors at trail intersections.

HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE

Over the past two years, the Home of FDR NHS received between 120,000 and 140,000 recreational visits. Over 20,000 visitors were recorded using the trails in 2010 (NPS 2011). The Wallace Center provides parking, restrooms, benches, and a water fountain. Most visitors to this site access the trail network at the Cove Trail trailhead just south of the main parking lot. The nearby Henry Wallace Visitor Center provides restrooms and orientation. A sign at the trailhead provides an overview of the trail system at this site as well as interpretive background on the historic land use at the site. This map was created prior to the establishment of the Hyde Park Trail system; therefore, the Hyde Park Trail connections are not shown on this map. The trail system at this site is almost entirely dirt and/or gravel. As such, these trails are open only to pedestrian use. Difficulty is moderate with only a few steep hills.



Trail map and information provided at the Cove Trail trailhead.

From the trailhead between the parking lot and the rose garden and gravesite, the blue-blazed Cove Trail travels 0.6 miles southwest past the ice pond, and ends near Roosevelt Cove, which is

part of a large freshwater tidal system separated from the Hudson River by the railroad tracks. The western portion of this trail is closed periodically due to beaver activity and the associated flooding. The Hyde Park Trail follows the Cove Trail until shortly before the end, where it branches off to follow the Forest Trail north.

The green-blazed Forest Trail forms a 1.75 mile round trip loop through the wooded northwestern portion of the site. The Hyde Park Trail follows the western branch of this trail for 0.8 miles, splitting off to travel west along the old Morgan Boundary Road before turning north and leaving the bounds of the NPS property. Separate from the Hyde Part Trail, the Forest Trail follows the Morgan Boundary Road east before turning south and leading visitors through a patch of historic white pine forest plantation planted by FDR in 1935. Some visitors use the remainder of the Morgan Boundary Road to cut east to the visitor center; however, this is not an authorized NPS trail and takes place on private land.

The yellow-blazed Meadow Trail forms a 1.5-mile loop off of the Cove Trail and provides views of the Home of HDR from where it runs along a meadow. There are a number of unauthorized trails south of the Meadow Trail, the most heavily used unauthorized trail leads to the Culinary Institute of America, south of the Home of FDR site.

The FDR Home (otherwise known as Springwood) is about 600 feet south of the Cove Trail trailhead. From the Home, visitors can walk along the driveway to Route 9, as FDR did following his diagnosis with polio; however, there is no current interpretation along this route.



The FDR Home as seen from Meadow Trail.

Visitors can also use the Hyde Park Trail connections to enter the site on foot from the north or on foot or by bicycle from the east. Pedestrians entering the site from the north on Hyde Park Trail end up on the Forest Trail and can then access main building complex by the Cove and Meadow Trails. The Hyde Park Trail also connects this site to Route 9 and to the Roosevelt Farm and Forest on the opposite side of Route 9. From the Cove Trail trailhead, the Hyde Park Trail winds through the main building and parking lot complex at the Home of FDR site and emerges onto Route 9 at the southern end of the loop drive in front of the Bellefield NPS offices. Trail

users must then travel south approximately 200 feet along Route 9 to reach a crosswalk. At this point, Route 9 is two lanes wide with a posted speed limit of 40 MPH. Route 9 is a main arterial road that otherwise serves as a vehicular connection between the Vanderbilt Mansion NHS and the Home of FDR NHS.

Roosevelt Farm and Forest

On the eastern side of the Route 9, the NPS maintains a western trailhead for the Roosevelt Farm Lane, which the Hyde Park Trail follows through the Roosevelt Farm and Forest. This trailhead includes a gravel parking lot, and a kiosk provides visitors with wayfinding materials (including a map of the trail system branching off Roosevelt Farm Lane and a brochure they can take with them), orientation to NPS regulations, and interpretation regarding FDR's historic use of the forest. The NPS also maintains a parking lot at the eastern end of the lane, off Route 9G. Crosswalks exist across both highways to connect to the adjacent historic properties.



Wayfinding and interpretive kiosk at the western end of Roosevelt Farm Lane.

The 1.8 mile Roosevelt Farm Lane trail is the most popular at the site, with over 16,000 annual users in 2010 (NPS 2011). This trail is generally smooth and wide but has a few steep hills and curves. It features a small bridge over Maritje Kill, and it passes through a historic tree plantation. The Hyde Park Explorer cell phone tour also offers nine stops along the lane.

A number of side trails branch off the Roosevelt Farm Lane and follow historic carriage or farm roads. The three authorized trails that branch off the Roosevelt Farm Lane are the Red Trail (0.7 miles), Yellow Trail (0.7 miles), and Blue Trail (0.2 miles). All three trails are narrow and rough in spots. The footing can be uneven and steep. These side trails are open to pedestrian use only; however, unauthorized mountain bike use is known to take place on these trails. There are also many unauthorized, single track, mountain bike trails branching off trails in this vicinity. This network of mountain biking trails was established prior the purchase of this land by the NPS; however, a comprehensive environmental review process and promulgation of a special rule must be undertaken before off-road bike use can be allowed on these trails per NPS regulations. Because no such process has taken place, these trails are currently closed to mountain biking.

ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

The trails at this site are generally limited to pedestrian use; however, in areas where the Hyde Park Trail travels along the paved roadway, pedestrians share this roadway with bicycles and vehicles. The Hyde Park Trail enters the Eleanor Roosevelt NHS along the main entrance road, loops around a small pond south of the road, and at the main parking lot, the Hyde Park Trail returns to the road until it reaches the trailhead for Top Cottage Trail and Eleanor's Walk. The trailhead for these trails (including the amenities offered within the historic core) would continue to offer parking (including bus parking), restrooms, benches, a bicycle rack, and a water fountain. The restrooms and water fountain are offered seasonally. The Top Cottage Trail hike passes by a historic plantation and is about a mile long, with steep sections and rough sections. The Hyde Park Explorer cell phone tour offers interpretation at eight stops along this trail. The Eleanor's Walk trail is a loop of just under a mile (0.8 miles). It branches off of the Top Cottage Trail (which is technically part of the Home of FDR NHS) just after a historic white pine plantation created by FDR in 1914. This trail is easy at first, followed by a steady incline before descending on the return hike. The Hyde Park Explorer cell phone tour offers interpretation at seven stops along this trail. The Top Cottage Trail and Eleanor's Walk are limited to pedestrian use. This site was a retreat for Eleanor Roosevelt and is physically removed from the Route 9 commercial corridor. As a result, this site continues to serve as a contemplative site for visitors. After the Hyde Park Trail leaves the road running through the site, the road turns north and becomes Carlyle Road and is closed to public vehicles. It continues for another 0.3 miles where it connects to Roosevelt Road north of the site. The Secret Woods is located to the west of this road segment, but there is currently no access provided to this resource.

VANDERBILT MANSION NATIONAL HISTORIC SITE

In recent years, the Vanderbilt Mansion NHS received close to 400,000 recreational visits. Most of these visits were considered "vehicular;" however, over 12,000 visitors were recorded on the trails in 2010 (NPS 2011). Due to the layout of the property at this site there are several issues that make non-motorized touring of the site potentially difficult. Visitors enter the site via a paved roadway at the southern end of the site along with pedestrians, bicyclists and motorists sharing a narrow roadway. During periods of heavy visitation, including on weekends, the roadway can become crowded with visitors of various modes with resulting conflicts. Motorists may exceed the posted 15 MPH speed limit and bicyclists and pedestrians often walk or ride several abreast, making it difficult to safely navigate the road regardless of travel mode. The traffic flow along Vanderbilt Park Road becomes one-way and exits the site to Route 9, making bicycle access and circulation difficult, and requiring use of heavily traveled Route 9. Pedestrian access throughout this site is facilitated by a variety of facilities including garden paths and the Vanderbilt Service Road. The service road is a relatively flat and wide dirt and gravel road paralleling the railroad tracks along the Hudson River with only modest grades. At the northern end of the Vanderbilt Mansion NHS, Bard Rock is a popular spot for picnicking and occasionally serves as a boat landing for small watercraft such as kayaks or canoes. It is the only place within the National Historic Sites that affords direct access to the Hudson River. Visitors can hike or bike down from the rest of the site along the road. Bard Rock is also the northern terminus of the Hyde Park Trail.



The view of the Hudson River from the Bard Rock parking area.

From Bard Rock, the Hyde Park Trail travels south along two possible routes, either along the river to the west or past the Vanderbilt Mansion to the west. The eastern branch of the trail travels along some paved roadways where hikers may share the road with vehicles and bicyclists. The portions of the trail that take place on paved roadways are open to bicycles; however, unpaved trails are open to pedestrian use only. The eastern branch also passes by the main parking lot and visitor center, which provides parking for vehicles, buses, and bicycles as well as restrooms, benches, and a water fountain. The trail then continues south, past the Vanderbilt Mansion and gardens. The 0.4 mile Garden Trail is unpaved and in some locations has loose surfaces. While the paths within the gardens are flat, they are connected by stairways between the various levels of the garden. The western branch is known as the Service Road Trail and travels 1.1 miles along the steep wooded slopes of the site overlooking the Hudson River. These two routes meet at the southern end of the Vanderbilt Mansion site. This forms the 2.5 mile Vanderbilt Loop.

The Hyde Park Trail exits the bounds of the Vanderbilt Mansion NHS and travels along south, parallel to the Hudson River. Bicyclists and pedestrians can access this site from the south along the trail here; however, no wayfinding or orientation is currently provided at this access point. The only landmark that indicates entrance to a National Historic Site is a set of iron gates. The Hyde Park Explorer cell phone tour offers interpretation at a total of 11 stops along the Vanderbilt and Riverfront trails.

CONNECTIONS OUTSIDE NPS JURISDICTION

There are two options for visitors wishing to travel between Vanderbilt Mansion NHS and the Home of FDR NHS. Pedestrians can walk between them along Hyde Park Trail. The Hyde Park Trail exits the bounds of the Vanderbilt Mansion site and travels along south, parallel to the Hudson River. The Hyde Park Trail follows River Road to its terminus near Hyde Park Landing. There are no sidewalks to accommodate pedestrians separately from the road; however, the speed limit is 30 MPH, and River Road is not a main thoroughfare. On the contrary, south of

Riverfront Park, it is strictly residential. At the terminal cul de sac of River Road, a painted pavement marker guides visitors onto the path where it travels through wooded private property before entering the Home of FDR site, near Crum Elbow Point. The distance between national historic sites is approximately 1.6 miles. This is the Riverside Trail segment.

Visitors can also walk, bicycle, or drive between the Vanderbilt Mansion NHS and the Home of FDR NHS along Route 9; however, bicycle and pedestrian accommodations vary, and the speed limit varies between 40 and 45 MPH. There are safety concerns associated with pedestrian use of this connection.

Visitors driving between the Vanderbilt Mansion NHS to the Eleanor Roosevelt NHS use County Route 41 (Market Street) and Route 9G. Visitors driving between the main parking lot at the Home of FDR NHS and the Eleanor Roosevelt NHS likely use County Route 40A to cross between Route 9 and Route 9A. Neither of these routes offers bicycle or pedestrian accommodations.

SOILS AND TOPOGRAPHY

Hyde Park, NY is located in the mid-Hudson Valley. The geography of the area is strongly influenced by the Hudson River. The valley is bounded by the Catskill Mountains to the west and the Taconic Range to the east. The origins of the Hudson River may go back to the Cretaceous Period, almost 75 million years ago, but current landforms were strongly impacted by the Laurentide ice sheet. During the Wisconsin glacial period, the most recent glacial period at 10,000-20,000 years ago, ice sheets covered the majority of Canada and extended south as far as the NY harbor. As the ice sheet advanced southward, soils, sediments, and bedrock were eroded, and as the glaciers retreated, they deposited layers of glacial till. Temporary glacial lakes formed until the rivers recovered their formal channels.

The western half of the Home of FDR consists mainly of glacial till, but the Eleanor Roosevelt NHS contains only a small portion of till. The thickness of glacial till over bedrock ranges from zero to 20 feet on hilltops and from 20 to 40 feet on the slopes. Large blocks of ice and sediment left behind by the glacier formed kettles and created depressions that have since become small ponds or lakes. Kame terraces are often found in the vicinity of the sites, which are deposits that often slope down valley more steeply than the valley floor and formed where a glacial stream flowed along the margin of the glacier.

Five types of bedrock can be found in Dutchess County; however, the Roosevelt-Vanderbilt sites overlie the Middle Ordovician-aged Austin Glen Graywacke member of the Normanskill formation. This formation was deposited 430 to 470 million years ago on the unstable continental shelf. The land configuration here consists of steep bluffs measuring 100 to 200 feet high overlooking the Hudson River (NPS 2009).

Dutchess County soils are primarily made of glacial till and outwash, organic matter, lake deposits, and alluvial sediments (NPS 2009). According to the USDA's NRCS, the major soil types at the Vanderbilt Mansion are Colonie fine sandy loam and Hoosic gravelly loam. Smaller amounts of Staatsburg gravelly loam and Nassau Cossayuna gravelly loams can be found here,

as well. At the Home of FDR, major soil types include Hoosic gravelly loam, Colonie fine sandy loam, Steep ledgy land, and Staatsburg gravelly loam. In addition, small areas of Rhinebeck silt loam and tidal marsh freshwater phase are also present at the site. The Eleanor Roosevelt site includes Hoosic gravelly loam, Saco silty clay loam, Staatsburg gravelly loam, Hoosic gravelly sandy loam, and muck (NPS 2009).

Trails occur mostly within the Nassau Cardigan soil complex. Approximately 76 percent of existing authorized trails (over 11 miles) take place within this soil type. The Nassau-Cardigan complex is generally characterized as well drained loamy soil between 15 and 30 percent slope (NRCS 2011). Another 18 percent of existing authorized trails (over 2 miles) travel along Hoosic gravelly loam where it is either nearly level or up to 45 percent slope. This soil type is classified as somewhat excessively drained (NRCS 2011). The other soil types through which the existing authorized trails travel include Dutchess-Cardigan complex, Fredon silt loam, Knickerbocker fine sandy loam, Nassau-Rock outcrop complex, and Sun silt loam.

Although the topography of the Hudson Valley has many steep slopes, particularly on sites west of Route 9, many trail surfaces in steep areas have a stone and/or cobble surface that minimizes rilling and rutting. Ponding of water occurs in some areas where compaction has reduced drainage characteristics of the soil.

WATER RESOURCES

Estimates of water resources found at the Roosevelt-Vanderbilt sites include 4.4 miles of streams, 20.8 acres of ponds, 46.2 acres of known freshwater wetlands, and 25 acres of tidal and freshwater wetlands (NPS 2009). At the Home of FDR, perennial and non-perennial streams and an impounded pond are the primary water resources present. An unnamed perennial stream, enters from Morgan Ice Pond on an adjacent property and empties into a freshwater tidal cove on the Hudson River. Two intermittent streams, measuring in total about one mile, are present in the northern section of the site. The impounded pond, known as Roosevelt Ice Pond, measures about 0.7 acres.

Eleanor Roosevelt NHS has a much more extensive hydrography than the other two sites. Fall Kill and its perennial and ephemeral tributaries is the main fluvial system at the site. An eight-acre wet meadow drains into the Fall Kill near the northern edge of the site boundary. The five permanent ponds located on the site are Middle Woodland, Boundary, Hayfield, Curnan House, and Loosestrife. The North Woodland Pond and Buttonbush Pond are ephemeral, and the Upper and Lower Val-Kill and South Woodland Pond are impounded. Upper Val-Kill, measuring seven acres, was created by the Roosevelts in 1925 by damming the Fall Kill.

Within the Vanderbilt Mansion site, there are two perennial streams, Bard Rock Creek and Crum Elbow Creek, and one ephemeral stream. The Crum Elbow Creek begins in Rhinebeck and travels 13.3 miles before entering the eastern edge of the site and empties into the Hudson River. The Bard Rock Creek, measuring 1.5 miles, originates in Hyde Park and forms part of the site's northern boundary before emptying into the Hudson River. An intermittent stream drains the hillside below the Visitors Center. Three permanent ponds, the Upper Pond, Middle Pond, and Lower Pond, are impoundments of Crum Elbow Creek.

Overall, the sites are considered to have relatively good water quality. According to the sites' water resources management plan, the primary sources of contamination are nonpoint source pollutants from subdivision/commercial development, agricultural, septic system leachate, winter use of salt on roads, and land and garden chemicals (NPS 1997).

Most streams within the sites travel under the existing trail network through culverts or under bridges. The pictures below show examples of existing bridges included in the existing authorized trail system. On the left, there is an old but reinforced bridge where Maritje Kill travels under the Roosevelt Farm Lane. Other smaller stream crossings are crossed on simple wooden structures, built and installed by volunteers. Installation is simple because no anchoring is required, and the short width minimizes any shadowing of the stream. The area of the sites where no formalized stream crossings exist along trails are the unauthorized trails that see unauthorized use by mountain bikers off Roosevelt Farm Lane. In areas where unauthorized trails cross streams without the use of a bridge or culvert, localized sedimentation within these streams and compaction of the stream bed at the crossing may occur as a result of unauthorized use.



Stream crossings along the Roosevelt Farm Lane over Maritje Kill (left) and along the Top Cottage Trail (right).

WETLANDS

In addition to the water resources described above, vernal pools and wet meadows have been identified in at the sites but have not been systematically delineated, mapped, or inventoried. The wetlands shown on the figures in chapter 2 are based on information provided by the USFWS's National Wetland Inventory and the York State Department of Environmental Conservation wetland mapping. This section provides a summary of the primary wetland features at the sites; however, other scattered wetlands can be found throughout the sites.

Associated with the Home of FDR, a 25-acre freshwater tidal marsh, known as Roosevelt Cove, is adjacent to the southwest boundary of the site. This cove represents a rare wetland habitat type in the lower Hudson River basin. The Cove Trail provides access to this trail but is closed during periods of flooding.

At Eleanor Roosevelt NHS, the wetlands comprise part of the Dutchess County Wetlands Complex as defined by the U.S. Fish and Wildlife Service. The complex provides habitat for Blanding's turtles and other wildlife species. These wetlands include a shrub swamp west of Upper Val-Kill Pond, a wooded swamp and marsh habitats southwest of Lower Val-Kill Pond, a sphagnum shrub swamp near Buttonbush Point, and a wet meadow near the main entrance.

Within the Vanderbilt Mansion site, known wetlands include four small, non-tidal marshes that total about one acre, and a non-tidal fresh water swamp along the western boundary.

VEGETATION

A majority of the Roosevelt-Vanderbilt historic sites are classified as either cultivated/old field (e.g., maintained lawns, gardens, ornamental plantings, etc.) or hemlock-northern hardwood forest, with a small amount of other community types intermingled (NPS 2009). The hemlock-northern hardwood forest typically occurs on middle to lower slopes of ravines on cool, mid-elevation slopes, and on moist, well-trained sites. The Eastern hemlock (*Tsuga canadensis*) is codominant with any one to three of the following tree species: American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*A. rubrum*), black cherry (*Prunus serotina*), white pine (*Pinus strobes*), yellow birch (*Betula alleghaniensis*), black birch (*B. lenta*), red oak (*Quercus rubra*), and basswood (*Tillia americana*). Within hemlock-northern forest communities, hemlock may vary in abundance between nearly pure stands with nearly 100 percent canopy cover to mixed stands in which hemlock composes only 20 percent canopy cover (NYNHP 2009).

Additionally, several, mid-size examples of red cedar rocky summit forest type are present to the west of the FDR Home. This community type is characterized by dry upland ridges with low areas, shallow soils, and prickly-pear cactus, and it is dependent upon periodic fires. These communities are limited in distribution, as they are essentially a mid-Hudson Valley type, with about 20 documented in the entire state (NPS 2009).

The lands between Route 9 and Route 9G are made up of the most intact forest areas in the sites. A hemlock-northern hardwood forest, running north to south in direction, remains relatively intact with very few exotic species. This community extends into the undeveloped lands to the north and south of the site. The area totals 375 acres, with 90 acres occurring on NPS lands. This community may be important for the region and the state, due to its quality as a habitat corridor and its excellent condition. The areas of land between Route 9 and Route 9G also contain beech-maple mesic areas with basswood and white ash trees and ephemeral spring flowers located on its northwest portion, along with well-buffered red maple-black gum swamps, hemlock-hardwood swamps, and red maple-hardwood swamps (NPS 2009).

ARCHEOLOGICAL RESOURCES

Nationally significant historic structures and cultural landscapes are associated physically and historically with the archeological resources at the Roosevelt-Vanderbilt National Historic Sites. Archeological evidence provides information about those who lived and worked on the NPS land, historically. Most archeological resources are not fully documented, yet an array of historic

period and a lesser amount of prehistoric resources can be found throughout the sites. In the 1970s, the NPS began conducting archeological surveys, relying on historical documentation and visual observation. An Archeological Overview Assessment was completed in 2008 for the Home of FDR NHS and one for the Vanderbilt Mansion in 2009. A preliminary assessment of archeological resources was conducted in 1979, followed by a combined Phase IA/IB survey in 2003-2004 at Val-Kill. More detailed assessments have generally been done as compliance in conjunction with individual construction projects, as opposed to a systematic investigation.

HOME OF FRANKLIN D. ROOSEVELT NATIONAL HISTORIC SITE

FDR had interest in his estate that extended to its prehistoric and historic archeological resources. FDR noted arrowheads, or other prehistoric artifacts, turned up by plowing, and he speculated on the location of buildings that were no longer standing. The Archeological Overview and Assessment completed in 2008 was limited to NPS lands west of Route 9. The study overviews 17 previous archeological projects, beginning in the 1970s, and describes 27 identified sites or resource locations. The report lists more than 70 entries for the NPS Archeological Sites Management Information System, of which 10% are noted as prehistoric. High archeological sensitivity for both historic period resources and prehistoric resources was noted for most areas of the sites. An archeological survey conducted east of Route 9 in the Roosevelt Farm and Forest area to accompany the Roosevelt Farm Lane rehabilitation project in 2007 recovered 246 artifacts of varied ages, but no further work was recommended. (Louis Berger Group 2007).

ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

There have been four major project-specific archeological investigations at Val-Kill, beginning in 1979, with a Phase I survey in the Historic Core that yielded no cultural artifacts. Subsequent investigations in 1983 and 1984 for road work and parking lot construction; waterline survey in 1999 in the Historic Core and a survey of the South Field gravel terrace in 2002 all resulted in a negative outcome for significant cultural resources. No assessment of archeological sensitivity has been prepared for the entire site. A more intensive assessment was conducted in 2003-2004 of the Historic Core Area and the Curnan Property Area to comply with section 110 of the National Historic Preservation Act. The combined Phase IA/IB assessment by NPS personnel (Harmon et al 2006) identified 14 potentially significant historic period features or areas of deposit associated with the Roosevelt period of occupation and lithic artifacts of Native American origin in the historic core. No significant archeological features or artifacts in the Curnan Property area, where new construction was proposed, were found (Harmon et al 2006,). None of the features or areas of deposit, however, were formally evaluated for their National Register eligibility, although the report stressed avoidance as much as possible for any future construction projects in the vicinity of the areas that were studied.

VANDERBILT MANSION NATIONAL HISTORIC SITE

An Archeological Overview and Assessment (AOA) conducted in 2009 reviewed nine previous archeological investigations from 1973 to 1999 and resulted in the identification of five pre-and 53 post-contact archeological resources (PAL 2009). The majority of these resources have not

been evaluated for their National Register eligibility. The investigations from 1973-1999, conducted solely by NPS staff, were performed in preparation for a number of planned ground-disturbing construction projects, except for the initial 1973 review, which attempted to identify and map specific sites that predated the Vanderbilt period of occupation through a systematic pedestrian survey (PAL 2009). As these investigations were focused on specific study areas, no large-scale systematic surveys have been conducted. The AOA assessed high pre- and post-contact period archeological sensitivity evaluation for most of the property. Areas designated for high pre-contact period sensitivity are generally level to moderately sloped areas and include both uplands and low lying areas near the Hudson River and Crum Elbow Creek (PAL 2009). The high sensitivity areas for post-contact period resources are defined as those where there is evidence of historic-period development around the residence core, and those areas where structures previously stood, which includes Bard Rock and lower portion of Bard Rock Road (PAL 2009).

CULTURAL LANDSCAPES

HOME OF FDR NATIONAL HISTORIC SITE

The Home of FDR site preserves the significance of the historic Roosevelt Family Estate. The site includes the main house, gardens, river view, woodlands, forest plantations, former farm lands, Top Cottage, and the gravesite of Franklin and Eleanor Roosevelt, as well as parts of the adjoining estate of J.R. Roosevelt, FDR's half-brother. The FDR Library and Museum are located between the FDR Home and Bellefield, occupying a 16-acre parcel.

The area at the front of the Home portrays a rural scene along the busy Route 9 (historically known as Post Road), contrasting with the adjacent commercial and residential development on the opposite side of the road. A rubble stone wall lines the road, along with a tall screen of white pines planted by FDR in 1914. The original entrance to the estate is known as Home Road, which is a tree-lined road that includes iron gates relocated from Mount Hope, the Roosevelt family's previous residence in Hyde Park. The Library was opened in 1941, and a new public entrance was created along the northern edge of the property, marked by a gatehouse. Both entrance drives are now closed to the public. FDR's home faces east toward Route 9 across a lawn. From the southwest end of the home, FDR enjoyed a view down the Hudson Valley, with views of the river, Shawangunk Ridge, and the Poughkeepsie bridges off in the distances. Recent forest growth has obscured this view.

Formal gardens, redesigned in 1912, are located to the north of the FDR house and include two garden rooms, rose and annual beds, a hemlock hedge-lined perimeter, a greenhouse built in 1906, and the gravesite of FDR and Eleanor Roosevelt. Several outbuildings stand to the west of the gardens. North of the formal garden is FDR's Home Garden, which possessed large and small vegetable gardens, in addition to a tree nursery. Most of this area, however, was used for a visitor parking lot, built in 1948 by the NPS and largely removed for the Wallace Center project. Woods line the lowlands west of the main house and accessed by River Road. The road now forms part of the Hyde Park Trail. These lower woods consist of native oaks, river frontage, and varied topography, and the area was traditionally used by the family for recreation. FDR built a

network of roads, bridle paths, and a swimming pond in a creek that runs through the area. FDR also established his first forest plantations on several old fields and gravel pits, starting in 1912, within this area. Remnants of these white and red pine plantations remain along the creek. The NPS ceased management after 1945 and allowed the plantations to naturalize.

In 1935, FDR purchased the 53-acre Rogers Land, located north of the lower woods. Stone Cottage Road forms the northern boundary of the land, which extends west across a steel truss bridge over the railroad to Crum Elbow Point.

The NPS owns one-half of the J.R. Roosevelt Place. The lower parts of the property along River Road and within the viewshed of the FDR Home contain trails and roads used by the public. The layout of the J.R. Roosevelt Place is very similar to the FDR Home property. A straight, tree-lined main entrance drive from what is currently Route 9 historically passed through open fields, with the southern field now containing Hyde Park Mall and the northern one being owned by the NPS. The terminus of this entrance drive is the Red House, also owned by the NPS. To the south of this house are formal gardens, now the site of the site museum services facility, which is screened in by the gardens' hemlock hedge. A tree-lined trotting course is located beyond the gardens. The outbuildings originally were located north of the house; however, the Roosevelt family later moved them off the south side of the main entrance drive. Half of this complex was demolished for the Hyde Park Mall.

The NPS acquired the land between Route 9 and Route 9G in 2007. The land comprises 334 acres, including James Roosevelt's "Home Farm" and western portions of farms acquired by FDR. This land has retained much of the same character that with which FDR was familiar, including the native oak forest, numerous conifer plantations, remnants of a Christmas tree plantation, and demonstration and experimental plantations. The plantations have declined from lack of management since FDR's death, but are largely intact. A network of roads crosses the property and parts of the network have been rehabilitated as Roosevelt Farm Lane. The property contains numerous stone walls which date back to the early history of the property, and only one building remains standing, which is a concrete dairy barn erected in 1947 by Elliott Roosevelt. The most prominent side of the Home Farm, which faces the Home, has lost most of its rural character, due to a commercial strip development along Route 9. Scenic Hudson, Inc. transferred three parcels of undeveloped land encompassing 50 acres which contain remnants of the open fields that once lined the highway to the NPS in 2011. To the southwest, contiguous with the NPS property, is a 13-acre privately owned parcel, along with a 13-acre parcel and a 24-acre parcel which have two residences, adjacent to the southern boundary of Val-Kill (now Eleanor Roosevelt NHS).

Bellefield, a 24-acre property north of the Home, historically formed the core of the Newbold-Morgan estate. This property extends from Route 9 to the edge of the river terrace. North of the property, a large field, once owned by the Morgan family, remains in private ownership, but it is protected by a conservation easement. Bellefield was connected to FDR's Home by a drive that ran from the Home Road along the east side of the Rose Garden. Portions of the road serve as a pedestrian path, but most of the structure was removed for construction of the Wallace Center. The historic Bellefield river road, known as Stone Cottage Road, originally followed the north property boundary, but it has since been replaced by the new visitor entrance road. The

centerpiece of the Bellefield property is the mansion. Unlike the FDR Home and Red House, it is positioned in the middle of the river terrace, close to Route 9. A lawn occupies the land in front of the house, in addition to a tree-lined U-shaped entry drive built prior to 1867. A formal garden was built circa 1912, extending off the south side of the house, and was designed by Beatrix Farrand, one of the finest landscape architects of the 20th century. Although the plantings have changed over time, the walks and spatial character of the garden remain intact. To the west of the mansion, a rear lawn contains specimen trees, and beyond, land was historically used as flower and vegetation gardens, but is now occupied by the Wallace Center and parking lot. To the northwest of the Wallace Center is the Crooke Family burial ground, which includes a partially enclosed stone wall containing three visible headstones, with the earliest dating to 1772. A water tower and pump house are hidden by mature trees on the side of the burial grounds, and to the north of the site, the estate's complex of service buildings stand, erected between 1905 and 1917.

Forty acres of FDR's hilltop retreat is preserved at Top Cottage, located on the highest point of his estate, which is presently on the eastern side of Eleanor Roosevelt NHS. The landscape consists of a mostly wooded area surrounding the cottage. Most of the rural setting that once characterized the landscape has been lost to suburban development. The NPS owns three undeveloped lots along Val-Kill Drive, which hold woody succession growth. To the east and northeast of the property, the land is forested and undeveloped, and to the southeast of the NPS property, the land lies outside the historic estate boundary and was required as a right-of-way for a trail connection with Val-Kill. Panoramic views across the Hudson Valley to the Catskill Mountains are provided from the porch of the Top Cottage. The view to the southwest of the Hudson Highlands was historically open, but is now obscured by vegetation. The Franklin and Eleanor Roosevelt Institute returned the landscape to its forested character in 1999 to 2000 by removing several post-1945 structures and restoring the original entrance drive loop on the east side of the house.

ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

Val-Kill is a 181-acre property containing a complex of buildings that served as Eleanor Roosevelt's country retreat and business, beginning in 1924, and then as her home from 1945 until she died in 1962. The site includes the original property acquired by the NPS in 1978 and a small lot on Roosevelt Road acquired in 1980. The site is located along the east side of Route 9G (Violet Avenue), which is a two-lane highway. The highway approach to the site has a suburban character, dominated by tracts of single-family houses, but the site primarily preserves the rural character of the Roosevelt era. Most of the suburban development occurred during the last 10 years of Eleanor Roosevelt's life, and so she personally witnessed the major change in the landscape. The site entrance from Route 9G is a narrow lane, which was originally a farm road predating Val-Kill construction. The lane divides the property in half and borders a broad hayfield to the south and areas of successional field, wetlands, and woods to the north. A minor road extends off the north side of the entry lane toward the former caretaker's house, built after Eleanor's death.

The entry lane turns south along the southeastern side of Val-Kill Pond toward the east end of the hayfield. The Val-Kill Pond is a section of the Fall Kill dammed by the Roosevelt family in 1925. From the entry lane, the pond opens to a view of the Val-Kill core. To the northeast, a

white pine plantation planted by FDR in 1914 frames the view. The entry lane reaches the historic core over a plain bridge and stone dam on the Fall Kill, and public vehicle access to the core is restricted. Visitors can park in a small lot built by the NPS within an orchard. A side road maintained as part of the Hyde Park trail extends in a loop through the lower section of the site. Oak forest comprises most of the south part of the site, except for remnants of white cedar, tulip tree, and Scotch pine plantations, which served as experimental plots by the New York State College of Forestry from 1930 to 1931. The Val-Kill core is anchored by two primary buildings and several outbuildings, set in a wooded landscape with open lawn bordering the pond. The Stone Cottage, the earliest building in the area, contains extensive flower gardens at the back and south side of the house. These gardens were established during the residency of Nancy Cook, a friend of Eleanor Roosevelt, at the cottage from 1924 to 1947. To the rear of Stone Cottage is Val-Kill Cottage.

VANDERBILT MANSION NATIONAL HISTORIC SITE

The Vanderbilt Mansion site preserves the western half of the Vanderbilt Estate, including the mansion, gardens, service buildings, entrance gates, riverfront, and river views. Route 9 bounds the property on the east, Market Street and Hyde Park hamlet bound the property to the south, a railroad and the Hudson River bound the property to the west, and a private property forms the northern boundary. West of Route 9, the only portion of the former Vanderbilt property that is not owned by the NPS is the Wales House at the southeast corner of the estate, which is privately owned.

On Route 9 and Market Street, the front of the estate is lined by an ashlar masonry wall, with a tall screen of white pines behind it along Route 9. The primary visitor entrance to the site is through the Vanderbilt's main entrance at the south gate, built in 1898. The grounds reflect the general organization of the picturesque landscape designed by Andre Parmentier in the rural style of English landscape gardening which was coming into fashion in America in the early 19th century.

Past the south gate, the main drive descends to a dammed section of Crum Elbow Creek, which it crosses by the White Bridge. The road then climbs the creek bank and turns north at the corner of the gardens toward the oval, a broad area of open lawn along the east front of the Mansion, encircled by the main drive as realigned in 1910. The north and south lawns extend on either side of the oval, framed by woods and containing numerous specimen trees, which include a ginkgo that may have been planted by Samuel Bard in 1797. The main drive continues north of the oval, along the edge of the river terrace, bordering the north lawn. An overlook along the far side of the road provides a view up the Hudson Valley, with the Catskill Mountains in the distance. This particular view was made famous in several 19th-century prints, including Currier & Ives, in 1835. The main drive exits to Route 9 by the north gate, which was built in 1906.

Just before the north gate, the main drive intersects with Bard Lane, which follows the north boundary of the site to the Hudson River. Bard Lane crosses the railroad on a narrow iron-girder bridge to one of the few sections of land in the area that extend beyond the railroad to the Hudson River. This stretch of land is wooded and has a small visitor parking lot, added by the NPS. The rest of the site to the south is separated from the riverfront by the railroad. A carriage road from

1898 runs parallel to the riverfront from Bard Lane to the river gate near Market Street. An iron fence with cast-stone piers, erected circa 1919, separated the road from the railroad. Along the road, a small plantation of Norway spruce and white pine runs along Bard Lane.

The Vanderbilt Mansion is located in the middle of the site near the edge of the river terrace. The building occupies the site of the previous houses erected by the Hosack, Langdon, and Bard families. The view is maintained through a clearing in the bank below the house, extending down to the lower carriage road. The Mansion is surrounded by specimen trees and a grass-covered lawn. Evergreen foundation plantings were added in 1923, but were removed by the NPS in the 1970s. The Pavilion is north of the Mansion.

At the far end of the south lawn and south of the Mansion, formal gardens deviate from the landscape's picturesque, naturalistic style. Between 1901 and 1934, the Vanderbilt family redesigned gardens and rebuilt the greenhouses, retaining much of the earlier organization and some of the manmade features, as well as continuing the use of red brick for walls and buildings. This reconstruction maintained the character of the gardens as a discrete landscape feature, without a formal relationship to the Mansion. The reconstruction also retained access to the gardens only by an inconspicuous footpath bordering the edge of the river terrace. The formal gardens consist of a series of garden rooms that form a square with an extension to the east. The matching brick Tool House and Gardener's Cottage are located to the north. The Carnation House used to stand between the two structures, but was removed in the 1950s.

Between 1897 and 1908, two raised terraces were erected to the north of where the Vanderbilt greenhouses stood. These were removed by the NPS in the 1940s and 1950s. Two terraces with raised beds are located below the greenhouse sites, and below them is the Italian Garden, which is the primary garden room. This garden features brick perimeter walls, an axial walk, terminal pergolas (i.e., a passageway or sitting area of vertical posts or pillars that usually support cross-beams and a sturdy open lattice), and a pool. The structure was initially built in 1902-1904 according to the design of James L. Greenleaf. In 1910, the Philadelphia nurserymen and landscape architects Thomas Meehan and Sons built a new garden room enclosed by brick walls which included a Renaissance Revival style pavilion off the east side of the Italian Garden. In 1916, this extension, now known as the Rose Garden, was replanted with roses. The formal gardens reflect the significant efforts begun by the NPS and The Frederick W. Vanderbilt Garden Association in the late 1970s to address the abandonment that had started during World War II. To date, the garden landscape has been reestablished, with the exception of the greenhouses.

The Crum Elbow Creek valley is located below the formal gardens. The valley is a naturalistic landscape that forms the southern end of the site. A gentle winding drive parallels the creek with its ponds and waterfalls, and the drive is lined by specimen trees and grass shoulders. The drive extends from the main drive at White Bridge to the river gate off Market Street, providing access to the Coach House. The Power House is located between the White Bridge and the Coach House, which used waterpower to generate electricity for the estate. The access road to the Coach House, which connects to Market Street, crosses Crum Elbow creek over a rustic stone-faced arched bridge built in 1897.

The Vanderbilt farm, which is the portion of the Vanderbilt estate east of the Route 9, consisted of approximately 459 acres during Vanderbilt family ownership. The farm aligned with the north and south boundaries of the Vanderbilt Mansion NHS and extended east approximately a third of a mile. This area is now privately owned, and much of it has been subdivided for residential development. South of the farm is a tunnel beneath Route 9, known as the Subway, which was constructed in 1906 to facilitate access between the farm and the rest of the estate.

OPERATIONS AND INFRASTRUCTURE

The number of NPS staff at the sites fluctuates, depending upon which positions are filled or vacant. The 2010 GMP anticipated that 71.5 full-time equivalent positions (FTEs) distributed among seven operating divisions would be required to manage the sites (NPS 2009). “Full-time equivalent” positions are the most accurate means of describing staffing, since some positions are seasonal or part-time. The staff responsible for roads, trails, parking lots, and many other aspects of the historic sites is part of the Roads & Grounds section of the Maintenance (i.e., Area Services) Division and consists of a foreman, five other employees, and a varying number of seasonal positions. The Law Enforcement Division includes three full-time permanent employees and two term positions. These employees are responsible for enforcing regulations throughout the sites such as the ban on ATV use of trails.

There also are at least 13 full-time permanent employees within the Interpretive Division, which is responsible for the NPS presence in the Wallace Center, which functions as the parks’ visitor center. In addition to its primary responsibility of preparing and presenting public programs, the division manages the sites’ education program and Alternate Transit System and coordinates the “Rail-to-Trail” interpretive programs in conjunction with Amtrak.

The staff of the Natural Resources division consists of two people: a horticulturist and a chief, sometimes assisted by interns provided by outside or grant-funded programs. In addition to researching, monitoring, managing, and advising on natural resources, the division has a variety of additional responsibilities. These include overseeing NPS activities for trails, landscape planning, environmental compliance, and archeology (NPS 2009).

Site managers also work cooperatively with Scenic Hudson, the Town of Hyde Park, the Hudson River Valley National Heritage Area, and others to advance the Hudson Valley Welcome Center project (previously known as the Regional Center) on lands between Route 9 and Route 9G. Site managers connect the sites’ interpretive programs with those of thematically related sites, such as those associated with Franklin and Eleanor Roosevelt, the Vanderbilts, other presidents, the Hudson Valley, and “sites of conscience.” They also cooperate with partners in the Hyde Park Trail Network to extend and improve the trail system and conduct increasingly important work with the NYDEC to protect views of lands outside the site boundary and to manage invasive plant species.

Volunteers assist the sites in interpretation, maintenance, and resource management. The interpretive volunteers function as docents, giving tours of the main residences and providing back-up for tours with large groups. In fiscal year 2007, interpretive volunteers provided 3,023 hours of service. In addition, 12 volunteers provided 260 hours of service on “Rail-to-Trail”

interpretive programs presented on Amtrak trains. Cumulatively, volunteer efforts in fiscal years 2006 and 2007 translate into six additional FTEs for the sites. Two garden associations provided a total of 9,200 volunteer hours to maintenance operations. It is estimated that volunteers contribute approximately 1,500 hours a year to trail management and/or maintenance (NPS, Hayes, pers. comm. 2012).

The infrastructure that makes up the trail system is composed of unpaved trails, unpaved historic roads, and paved roads. Most of the trails under NPS jurisdiction are unpaved. For the most part, the paved roadways are outside NPS jurisdiction and are maintained by the NY Department of Transportation (DOT). Also, the NPS provides a free shuttle known as the Roosevelt Ride, which offers service from the Poughkeepsie Metro-North Railroad Station to the Home of FDR NHS and from there to various locations within the other sites. The shuttle leaves Poughkeepsie in the morning and returns in the afternoon. Operation is 7 days a week from May 1 to October 31, and reservations are required.

HOME OF FRANKLIN ROOSEVELT NATIONAL HISTORIC SITE

The Home of FDR NHS is split into two distinct areas by Route 9. On the western side of Route 9, the main complex features approximately 2.7 miles of trails, which are composed largely of former farm roads that were used to access FDR's farmlands and forest plantations as well as neighboring farms. The trails are generally between 8 and 14 feet wide (most on the smaller side), have surfaces of soil and stone, and are open only to foot travel. There is some erosion primarily along the Cove Trail between where paving ends and the Meadow Trail branches off.

On the eastern side of Route 9, the Roosevelt Farm and Forest features the 1.8 mile Roosevelt Farm Lane and 1.6 miles of other authorized trails. The Roosevelt Farm Lane is relatively wide and predominately paved with gravel. It is the only trail on which bicycle use is seasonally allowed March through November (bicycles are allowed on other paved roadways year-round). The seasonal closure of this trail to bicyclists is due to the potential for hazardous conditions during the winter months (specifically December 1 to February 28). Although bicycle use is currently prohibited on the rough, narrow single track trails branching off the Roosevelt Farm Lane, unauthorized bicycle and ATV use is known to take place on the authorized trails and the network of unauthorized trails in this area. A crosswalk exists across Route 9 and Route 9G to connect the Roosevelt Farm and Forest to the adjacent sites.

ELEANOR ROOSEVELT NATIONAL HISTORIC SITE

The main trail network at this site is approximately 2.4 miles. The Hyde Park Trail also enters this site from where it crosses Route 9G. It travels along the main entrance road for 0.14 miles and then leaves the road to loop around a pond and meet the main parking lot 0.3 miles later. The link from the parking lot to the main trailhead (0.14 miles) varies between gravel, asphalt, and dirt road, usually 12 feet wide. From the trailhead, both the Top Cottage Trail and Eleanor's Walk are approximately 5 to 6 feet wide and made up of packed dirt with some exposed stone.

VANDERBILT MANSION NATIONAL HISTORIC SITE

The trail system at Vanderbilt Mansion NHS includes 2.8 miles of scenic drives and paths, including an unpaved service road that parallels the railroad tracks following the eastern bank of the Hudson River. The conditions vary considerably, even along the segments of the Hyde Park Trail that pass through the site. Much of the trail here is well manicured but narrow (approximately 4 feet). Water tends to pool in areas where gravel has been washed away. The western portion of the trail runs along a steep drop off, resulting in exposed roots in some areas and the need for trail stabilization in at least one area.



The steep slopes have required stabilization along the western branch of the Vanderbilt Loop portion of the Hyde Park Trail.

4

ENVIRONMENTAL CONSEQUENCES

This chapter describes the environmental consequences associated with the alternatives presented in “Chapter 2: Alternatives.” It is organized by impact topic, which distills the issues and concerns into distinct subjects for discussion analysis. NEPA requires consideration of context, intensity, and duration of adverse and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. NPS policy also requires that impairment of resources be evaluated in all environmental documents. An impairment determination for the NPS preferred alternative will be attached to the decision document.

GENERAL METHODOLOGY FOR ASSESSING IMPACTS

Potential impacts are described in terms of type (beneficial or adverse), context (site specific, local, or regional), duration, and level of intensity (negligible, minor, moderate, or major). Both indirect and direct impacts also are described; however, they may not be identified specifically as direct or indirect. These terms are defined below. Overall, these impact analyses and conclusions were based on the review of existing literature and studies, information provided by on-site experts and other government agencies, professional judgments, and NPS staff insight.

TYPE

Impacts can be beneficial or adverse. Beneficial impacts would improve resource conditions, while adverse impacts would deplete or negatively alter resources.

- Beneficial:** A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- Adverse:** A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- Direct:** An impact that is caused by an action and occurs at the same time and place.
- Indirect:** An impact that is caused by an action but is later in time or farther removed in distance, but still reasonably foreseeable.

CONTEXT

Context is the setting within which an impact occurs and can be site specific, local, sitewide, or regionwide. Each of these categories is defined below.

Site Specific: The impact would occur within the study area.

Local: The impact would occur within the general vicinity of the study area.

Sitewide: The impact would affect a greater portion outside the study area yet within the national historic sites.

Regional: The impact would affect localities, cities, or towns surrounding the national historic sites.

DURATION

Impacts can be either short-term or long-term. A short-term impact would be temporary in duration and would be associated with the construction process. Depending on the resource, impacts would last as long as construction was taking place, or up to one year after construction is completed. Long-term impacts last beyond the construction period, and the resources may need more than one year after construction to resume their previous condition. Impact duration for each resource may differ and is presented for each resource topic, where applicable.

Short-term: Impacts that occur only during construction or last less than one year.

Long-term: Impacts that last longer than one year.

LEVEL OF INTENSITY

Level of intensity means the severity or magnitude of an impact. Because the level of intensity definitions (negligible, minor, moderate, major) vary by resource, separate definitions are provided for each impact topic analyzed. Beneficial impacts are described but are not assigned a level of intensity.

CUMULATIVE IMPACT METHODOLOGY

The CEQ regulations that implement NEPA require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as impacts which result when the impact of the proposed action is added to the impacts of other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions (40 CFR 1508.7).

To determine the potential cumulative impacts, existing and anticipated future projects within the study area and in the surrounding area were identified. The projects identified include the Hyde Park Drive-In improvements, water access at Crum Elbow Point, continued operation of the Roosevelt Ride, the Hudson River Greenway Water Trail, and the Albany Post Road Corridor Study.

Hyde Park Drive-In Improvements

The NPS recently completed plans for new visitor accommodations at the former site of the Hyde Park Drive-In, which was recently acquired by the NPS. These plans include the addition of a primary trailhead and kiosk at what would be the new Roosevelt Farm Lane trailhead parking area at the Hyde Park Drive-In site. The kiosk will feature comprehensive trail system information as well as information about the national historic sites. The NPS will also install secure bike parking at this location. The improved facilities at this location have the potential to impact visitor use and experience, soils and topography, water resources, wetlands, vegetation, archeological resources, as well as operations and infrastructure.

Water Access at Crum Elbow Point

The NPS would negotiate replacement of the railroad bridge (owned by CSX) to reopen access to Crum Elbow Point where a second water access point could eventually be designated. The provision of a second water access point has the potential to impact visitor use and experience, soils and topography, archeological resources, as well as operations and infrastructure.

Roosevelt Ride

The Roosevelt Ride is a free shuttle service provided by the NPS. It offers service from the Poughkeepsie Metro-North Railroad Station to the Home of FDR NHS, and from there to the other national historic sites. The shuttle leaves Poughkeepsie in the morning and returns in the afternoon. Operation is 7 days a week from May 1 to October 31, and reservations are required. This service has the potential to impact visitor use and experience.

Hudson River Greenway Water Trail

The Hudson River Greenway Water Trail begins in two locations; the first is in the northern Saratoga County Town of Hadley in the Adirondack Park and the second in the northern Washington County Village of Whitehall at the north end of the Champlain Canal and at the head of Lake Champlain. The trail ends at Battery Park in Manhattan and encompasses 256 miles of NY's famed waters, from the bucolic Champlain Canal to the turbulent white water of the upper Hudson River, and ending up in the majesty of the Hudson River Estuary. The Water Trail allows those with small boats to intimately explore the Hudson River's natural and cultural wonders, for a day, a week or a lifetime. While open to all boaters, the water trail is being designed and built for users with the most limited range of travel, kayakers and canoeists.

The Water Trail is designed with the goal of providing one or more access points (launches and take-outs) every 10 miles or less along both shores of the river, a series of campsites (or other overnight accommodations) every 15 miles or less that will promote multi-day excursions on the river, and access to as many day use attractions (points of interest to boaters) as possible. Day use attractions vary from wildlife marshes, islands and swamps, to historic sites, downtowns and hiking trails. Enhanced connection with this trail at Bard Rock has the potential to improve visitor use and experience.

Albany Post Road Corridor Study

This study was conducted for the Town of Hyde Park in 2002 to determine ways in which the towns could take steps to ensure the preservation of the roadway's existing landscape and historic features in the face of expanding strip commercial development. The portion of Route 9 between Vanderbilt Mansion NHS and the Home of FDR NHS is identified in this plan as an area that would benefit from an improved pedestrian network to encourage greater pedestrian activity in the area, including sidewalk and crosswalk improvements. Specifically, the plan calls for sidewalks to be constructed where they currently do not exist. Implementation of these improvements has the potential to improve visitor use and experience.

Cumulative Impact Contribution Methodology

In defining the contribution of each alternative to cumulative impacts, the following terminology is used:

Imperceptible:	The incremental effect contributed by the alternative to the overall cumulative impact is such a small increment that it is impossible or extremely difficult to discern.
Noticeable:	The incremental effect contributed by the alternative, while evident and observable, is still relatively small in proportion to the overall cumulative impact.
Appreciable:	The incremental effect contributed by the alternative constitutes a large portion of the overall cumulative impact.

VISITOR USE AND EXPERIENCE

METHODOLOGY

NPS *Management Policies 2006* states that enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for the public to enjoy parks (NPS 2006). Anticipated impacts on visitor use and experience were analyzed using information from previous studies. Based on these findings, the following intensity levels were developed:

Negligible:	Changes in visitor use and/or experience would be below or at the level of detection. The visitor would not likely be aware of the impacts associated with the alternative.
Minor:	Changes in visitor use and/or experience would be detectable, although the changes would be slight. The visitor would be slightly aware of the impacts associated with the alternative.
Moderate:	Changes in visitor use and/or experience would be readily apparent. The visitor would be aware of the impacts associated with the alternative and would likely be able to express an opinion about the changes.
Major:	Changes in visitor use and/or experience would be readily apparent and affect the majority of visitors. The visitor would be aware of the impacts associated with the alternative and would likely express a strong opinion about the changes.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, there would be no change in the existing trail system as part of a comprehensive master plan. Though many of the trails are contiguous and connected, the trail surfaces and the types of use that are allowed (e.g., walking, bicycling, driving) would continue to vary considerably and may change abruptly along some trail segments without provision of alternate routes. For instance, it is possible to walk between all sites; however, bicyclists have limited access to the sites. Bicycle use is currently limited to park roads, in accordance with 36 CFR 4.30. The discontinuity of allowed uses can be confusing for visitors and frustrating for those who wish to experience the sites' resources beyond park roads via bicycle.

Interpretive and wayfinding opportunities would remain limited to a couple existing trailheads, wooden trail markers, an audio tour, and information provided at visitor contact stations. This results in missed opportunities for visitors to learn about the natural and historic resources offered by the sites. Additionally, current use of regulatory signage, independent of existing trail signs and trail markings is inconsistent in terms of sign design, placement, and content. As such, it may be confusing to visitors, which may diminish its overall effectiveness

The Hyde Park Trail would continue to run approximately 9 miles through and between the sites, starting in the north at Bard Rock in the Vanderbilt Mansion NHS and travelling south then east along local roads, through the Home of FDR NHS, along Roosevelt Farm Lane, and through Eleanor Roosevelt NHS to its eastern terminus at Top Cottage. Though the Hyde Park Trail would continue to provide a continuous, linear trail connecting all of the sites, the trail surface and conditions vary tremendously, from shared roadways to single track hiking trails, and the allowed users (modes) along the trail vary as well.

Home of Franklin D. Roosevelt National Historic Site

As described in chapter 3, the western portion of this site would continue to offer three main trails: the Cove Trail (0.6 miles), the Forest Trail (1.4 miles), and the Meadow Trail (0.4 miles). The trailhead for these trails, located between the parking lot and the rose garden and gravesite, would continue to offer a map of the trails, albeit a slightly outdated version that does not show the Hyde Park Trail overlay. The nearby Wallace Center would continue to provide a directional signs, vehicle parking (including bus and bicycle parking), restrooms, benches, and a water fountain. The maps at the trailhead would continue to orient visitors to the trails and the associated features.

The trails at this site (west of Route 9) would remain open only to pedestrian use with the exception of the park roads and the Roosevelt Farm Lane (discussed below). Visitors would continue to access the site either from the main building complex or along the Hyde Park Trail from the north. The unauthorized trails along the Morgan Boundary Road and those heading south towards the Culinary Institute of America would remain unauthorized. The NPS would encourage neither access to nor egress from the site via this route. This would limit authorized access to the site to the main entrance off Route 9 and the entrance along the Hyde Park Trail

from the north. For visitors who continue to use this unauthorized trail, no orientation to the site would be available upon entrance to the site along this route.

The route used by FDR for physical therapy along Home Road between the FDR Home and Route 9 (0.3 miles) would remain available for visitor use, but the NPS would not provide any formal interpretation regarding its role in the life of FDR. Visitors would continue to rely upon site staff for information regarding this use but would not be able to read about it as they explore the driveway on their own under the historic allée of trees.

The Roosevelt Farm and Forest (between Routes 9 and 9G) offers the 1.8 mile Roosevelt Farm Lane, with gravel parking lots with bicycle racks at both ends of the trail. This would continue to be the only trail at any of the three sites where bicycle use is allowed without having to share the lane with public vehicles for more than a few hundred feet. The NPS would continue to provide a kiosk with maps at the western parking lot. Additionally, the Hyde Park Explorer cell phone tour offers interpretation at nine stops along this trail.

The NPS would continue to offer the three loop trails branching off of the Roosevelt Farm Lane: the Red Trail (0.7 miles), the Yellow Trail (0.7 miles), and the Blue Trail (0.2 miles). The NPS would continue to post signs emphasizing that these three trails are open to pedestrian use only (not mountain bikes) and would continue to discourage use of unauthorized trails throughout the Roosevelt Farm and Forest except along the Roosevelt Farm Lane. This provides a very limited opportunity for mountain bikers to use the site. Some mountain bikers would continue to ignore NPS signs and regulations and would use the trail network that was established on the property before the NPS purchased it in 2007.

Eleanor Roosevelt National Historic Site

The two existing pedestrian trails at Eleanor Roosevelt NHS would continue to be available: the Eleanor's Walk loop (0.8 miles) and the Top Cottage Trail (1 mile). The trailhead for these trails would continue to offer parking (including bus parking), restrooms (seasonally), a water fountain (seasonally), a bicycle rack, and benches. Interpretation along these trails would continue to be limited to the Hyde Park Explorer cell phone tour, which offers interpretation at seven stops along Eleanor's Walk and eight stops along the Top Cottage Trail. These trails branch off the road that travels from Route 9G, across from the Roosevelt Farm Lane to Roosevelt Road, which is north of the site. This 0.9 mile segment of road would continue to be open to pedestrians, bicycles, and vehicles, although the 0.3 mile section north of the Top Cottage Trail/Eleanor's Walk trailhead (Carlyle Road) is closed to private vehicles.

Vanderbilt Mansion National Historic Site

Vanderbilt Mansion NHS would continue to be dominated by vehicular use. The NPS would continue to offer vehicle parking (including bus and bicycle parking), restrooms, and benches at the Vanderbilt Mansion. Due to the layout of the property at this site several issues would continue to make non-motorized touring of the site potentially difficult. Visitors would continue to enter the site via a paved roadway at the southern end with pedestrians, bicyclists and motorists sharing a narrow roadway. During periods of heavy visitation, including on weekends, the roadway can become crowded with visitors of various modes with resulting conflicts. The

NPS would continue to enforce the posted 15 MPH speed limit but would not install any additional traffic calming devices. Bicyclists and pedestrians would continue to share the roadway with vehicles, walking or riding several abreast, which can make it difficult to safely navigate the road regardless of travel mode. The traffic flow along Vanderbilt Park Road becomes one-way and exits the site to Route 9, making bicycle access and circulation difficult and requiring use of heavily traveled Route 9. Bicycle use at this site would continue to be limited to the existing roadways.

Pedestrian access throughout this site would continue along the roads but would also continue to be supplemented by a variety of facilities including garden paths and the Vanderbilt Service Road. The service road is a relatively flat and wide dirt and gravel road paralleling the railroad tracks along the Hudson River with only modest grades.

At the northern end of the Vanderbilt Mansion NHS, Bard Rock is the northern terminus of the Hyde Park Trail and a popular spot for picnicking. Visitors can hike or bike down from the rest of the site along road. It would also continue to serve occasionally as a boat landing for small watercraft such as kayaks or canoes but would continue to offer no additional facilities for boaters beyond a parking area and some benches. The lack of orientation would leave visitors unaware of the connection available for them between the Hudson River Greenways Water Trail and the site. Visitors to the site who might access the site from that water trail would have no introduction to the sites without travelling to the visitor center.

Connections Outside NPS Jurisdiction

Under alternative A, the connections between the three sites would remain generally unchanged. No safety or connectivity improvements would be made as part of a comprehensive trails plan. Due to their proximity to each other, the Home of FDR NHS and the Eleanor Roosevelt NHS would continue to be well-connected to each other. Crosswalks and caution signs would continue to serve pedestrian and bicyclist visitors crossing Routes 9 and 9G to travel between the trails within and between these sites.

Vanderbilt Mansion NHS is physically separated to the north of the other two sites. A sidewalk stretches about 1.2 miles along Route 9 from the southern entrance to the Vanderbilt Mansion NHS to Calmer Place; however, pedestrian accommodations end about half a mile short of the crosswalk connecting the main Home of FDR NHS facilities to the Roosevelt Farm and Forest. Route 9 comprises four heavily traveled lanes with speed limits between 35 and 45 MPH; as such, pedestrian and even bicycle use of this roadway or its shoulders is undesirable. Otherwise, pedestrians can travel down the less trafficked River Road to the west of Route 9 and follow the Hyde Park Trail to Crum Elbow Point, where it enters the Home of FDR NHS. This route would remain unavailable to bicyclists. The lack of bicycle and pedestrian accommodations outside the sites would make such modes undesirable and somewhat unsafe for site visitors. Motor vehicle use would be the likely choice for visitors wishing to travel between sites.

Overall

As described above, alternative A would continue to have long-term, moderate, adverse impacts on visitor use and experience because visitors would continue to be aware of the lack of

interpretive signs throughout the trail system, the discontinuous trail types and uses, limited opportunities for authorized bicycle use within the sites, and the lack of connectivity between sites (and the associated safety issues) and would likely be able to express an opinion about these conditions.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on visitor use and experience within the study area. These actions include the Hyde Park Drive-In improvements, water access at Crum Elbow Point, the Roosevelt Ride, the Hudson River Greenway Water Trail, and the Albany Post Road Corridor Study. The Hyde Park Drive-In improvements would improve parking and orientation, wayfinding, and interpretation for visitors to the Roosevelt Farm and Forest. Establishment of water access at Crum Elbow Point would allow access to and from the Home of FDR NHS along the Hudson River Greenway Water Trail. Adding a connection to the water trail would allow a greater range of visitor experiences to a wider range of visitors. Continued operation of the Roosevelt Ride would continue to provide increased accessibility to the sites. The Albany Post Road Corridor Study has identified the need for continuous pedestrian accommodations in the area between Vanderbilt Mansion NHS and the Home of FDR NHS. This would facilitate coordination between the NPS, the Town of Hyde Park, and the NYDOT to implement this increased connectivity. The addition of continuous sidewalk along this route would increase visitor safety for those wishing to travel between sites on foot or by bicycle. These past, present, and reasonably foreseeable future actions would cause long-term, beneficial impacts on visitor use and experience. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, moderate, adverse cumulative impacts on visitor use and experience within the study area. Alternative A would contribute an appreciable adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, there would be a number of changes in the existing trail system as part of a comprehensive master plan. The availability of interpretive, wayfinding, and orientation information at trailheads and secondary access points would be improved under this alternative. The NPS would install signs with maps, directional signs, regulatory and etiquette signs, and accessibility information at six secondary access points to the sites: River Road, the Culinary Institute of America, the Roosevelt Farm and Forest eastern and western termini, Roosevelt Road, and Top Cottage. The key regulatory messages conveyed at these locations would be consistent in order to reduce confusion and improve effectiveness. This would make visitors to the sites aware that they are entering a national historical site and ensure that they are provided with orientation and guidance regarding trail use.

Additionally, there are many interpretive opportunities that could be incorporated into materials provided at trailheads. Specific proposed improvements at each site are described below.

Additional benches would be provided along the trails to provide rest stops, especially in areas targeted for additional interpretation and along universally accessible trails. The NPS would conduct a UTAP analysis to develop accessible routes at strategic locations among the sites (described where relevant below).

The existing trail system would be supplemented with 1.6 miles of new connections and 3.1 miles of existing unauthorized trails included in the authorized trail network. Of the 2.2 miles of widened trails, 1.4 miles of existing authorized trails would be widened to accommodate bicycle use on a designated multi-use trail. These modifications would provide visitors with additional opportunities for loop circulation (instead of out-and-back hikes) and would provide a new connection for bicyclists between Route 9 and the Hyde Park Trail. Following the analysis within this document and special rulemaking as articulated in 36 CFR 4.30, bicycle use on these designated trails would no longer be prohibited. Not only would this enhance bicycle use within the sites, but the connections between the sites would also be improved (for more detail, see the “Connections outside NPS Jurisdiction” section below). By establishing a more comprehensive multi-use trail network, visitors would be provided with a more continuous opportunity to experience the sites via the trail system without sudden changes in allowed use. Some pedestrians may find the addition of bicyclists to the multi-use segments to be a distraction from their experience; however, the NPS would attempt to reduce user conflicts by clearly posting guidance for trail use etiquette at kiosks or boards. After an adjustment period, visitors would adapt to the new pattern of use.

The Hyde Park Trail would continue to run approximately 9 miles through and between the sites, starting in the north at Bard Rock in the Vanderbilt Mansion NHS and travelling south then east along local roads, through the Home of FDR NHS, along Roosevelt Farm Lane, and through Eleanor Roosevelt NHS to its eastern terminus at Top Cottage. Under the proposed Trails Master Plan (alternative B), the proposed trail improvements would provide more consistent trail conditions through the establishment of several multi-use paths along existing trails. Although bicycles would not be allowed along the entire length of the Hyde Park Trail, an alternate route would be created in the Home of FDR NHS to connect bicyclists from Bard Rock to Top Cottage (the Top Cottage Trail would remain closed to bicyclists).

Home of Franklin D. Roosevelt National Historic Site

The western portion of this site would continue to offer three main trails: the Cove Trail (0.6 miles), the Forest Trail (1.4 miles), and the Meadow Trail (0.4 miles), but a new 0.5 mile connection between the Ice Pond and Fish Pond along with a new 0.8 mile connection along the Morgan Boundary Road from the Forest Trail to Route 9 would create two new trail loops. The new connections would be up to 10 feet wide.

The segment connecting the Forest Trail to Route 9 would be designated as multi-use for use by bicyclists and pedestrians, and the remaining portion of the Forest Trail along the northern border of the site (0.6 miles) would also be widened as a multi-use segment to provide bicyclists with access between Route 9 and the Hyde Park Trail segment that connects the Home of FDR NHS to River Road (mentioned in the “Connections Outside NPS Jurisdiction” section).

Additional interpretation of the historic white pine plantation along a southern portion of the Forest Trail where it remains pedestrian only would be added.

The new trail between the Ice Pond and the Fish Pond would connect to the Cove Trail near the western end of the Meadow Trail. The segment of existing Cove Trail between the Meadow Trail and the new trail connection by the Ice Pond (0.2 miles) would be designated as pedestrian only and would offer additional interpretation on how the ice pond was used to store ice that was cut and transported to the ice house near the Rose Garden. Visitors travelling to the end of the Cove Trail would have a chance to experience improved interpretation of the creation of the freshwater tidal marsh during the railroad construction in the 1850s.

An additional pedestrian-only trail at this site is Home Drive, the driveway between the FDR Home and Route 9. This trail also would be subject to additional interpretation, most likely in the form of additional signs to inform visitors of how this route was used historically by FDR following his diagnosis with polio. This route could be made accessible. To further develop an accessible route, and pending the results of the UTAP, the NPS would investigate the potential to use existing access drives and sidewalks to connect the driveway to the accessible parking at the Wallace Center.

The main trailhead for the Cove, Forest, and Meadow trails (and the associated new connections) would be located at the Wallace Center, which serves as the main visitor contact station, although the Cove Trail actually leaves the road between the parking lot and the rose garden and gravesite. This trailhead would continue to provide parking (including bus and bicycle parking), restrooms, benches, and a water fountain, and under the proposed plan, the NPS would supplement these facilities with a kiosk with maps and directional signs. Additional interpretation regarding the historic uses of the site (such as those mentioned above) would be included on the new kiosk or on new boards scattered along the trails. This would allow visitors to better understand these natural and cultural resources and gain an appreciation for this historic uses of the site.

The 1.8 mile Roosevelt Farm and Forest (between Routes 9 and 9G) would continue to be open to pedestrians and bicyclists. The NPS would continue to offer a parking lot with bicycle racks at both ends (east and west) of the trail. At the western end, the existing kiosk with maps and parking lot would continue to serve visitors until the construction of the Hyde Park Drive-In improvements (expected this year, see cumulative impacts description). At the eastern terminus, the NPS would continue to offer a gravel parking lot with a bicycle rack and would supplement this trailhead with a kiosk with maps, directional signs, and benches.

Interpretation of the Roosevelt Farm and Forest would continue to be available from the Hyde Park Explorer cell phone tour at nine stops along this trail and would be supplemented by interpretation of additional elements such as the Maritje Kill Bridge and the tenant farm.

The NPS would continue to offer the three loop trails branching off of the Roosevelt Farm Lane: the Red Trail (0.7 miles), the Yellow Trail (0.7 miles), and the Blue Trail (0.2 miles). In addition, these trails would be opened to mountain bike use (following this plan/EA and promulgation of associated special regulations in accordance with 36 CFR 4.30), and 2.8 miles of trails would be

designated for authorized pedestrian and mountain bike use (single track trails and rough terrain would make these trails unsuitable for road bikes). Of these 2.8 miles of new trails, 2.3 miles would consist of existing unauthorized trails that NPS would adopt as authorized trails. A few new connections would be made to connect the unauthorized existing trails within the bounds of NPS jurisdiction; these new trails would total 0.5 miles. The remaining 2.8 miles of unauthorized trails would be physically blocked to further discourage continued unauthorized use. These new trails would both meet the existing desire for authorized opportunities for mountain bike use as well as provide increased connectivity with bordering neighborhoods via authorized trails. Secondary trailheads would be established at the points where trails enter NPS property outside of the primary entrances.

Eleanor Roosevelt National Historic Site

The two existing pedestrian trails at Eleanor Roosevelt NHS would continue to be available to pedestrians (but closed to bicyclists): the Eleanor's Walk loop (0.8 miles) and the Top Cottage Trail (1.0 mile). The NPS would also construct a short (quarter mile) loop trail to provide access to the Secret woods in the northern portion of the site. This pedestrian trail would be approximately 5 feet wide and would provide visitors with an opportunity to experience the historic plantation where it is believed that Eleanor Roosevelt Read to her grandchildren (NPS 2009). This route would be designed to be universally accessible, if possible. The NPS would continue to offer vehicle parking (including bus and bicycle parking), restroom facilities (seasonally), water fountain (seasonally), and benches in the vicinity of this trailhead, including the historic core and, under this alternative, would add a kiosk with maps and directional signs to better serve visitors and provide additional interpretation regarding both FDR and Eleanor Roosevelt's historic use of the site. The NPS would also add a kiosk with maps and directional signs at Top Cottage. The kiosk could include additional information regarding the cottage's design and historic use of Top Cottage as FDR's escape from Springwood. This additional interpretation would supplement the ongoing availability of the Hyde Park Explorer cell phone tour, which offers interpretation at seven stops along Eleanor's Walk and eight stops along the Top Cottage Trail. The NPS also would provide additional interpretation of the historic tulip tree plantation established by FDR in 1932 along Eleanor's Walk. The 0.9 mile road that travels from Route 9G, across from the Roosevelt Farm Lane to Roosevelt Road, which is north of the site would remain open to pedestrians, bicycles, and vehicles (although public vehicles are restricted from using the northern portion, known as Carlyle Road).

Vanderbilt Mansion National Historic Site

Vanderbilt Mansion NHS would continue to be dominated by vehicular use. The NPS would continue to offer vehicle parking (including bus and bicycle parking), restrooms, a water fountain, and benches at the Vanderbilt Mansion and, under this alternative, would supplement these offerings with a kiosk with maps and directional signs. Vehicular circulation patterns at this site would not change; however, the designation of a multi-use loop overlaying the existing pedestrian loop would offer additional opportunities for bicyclists to experience this site separately from motor vehicles. Vehicles would continue to enter the site via a paved roadway at the southern end of the site, sharing the narrow roadway with pedestrians and bicyclists. During periods of heavy visitation, including on weekends, the roadway would continue to become crowded with visitors of various modes and potentially resulting in conflicts. Under this

alternative, the NPS would continue to enforce the posted 15 MPH speed limit and would install additional traffic calming devices such as signs alerting motorists to the presence of shared uses. The traffic flow along Vanderbilt Park Road would continue to become one-way and exit the site to Route 9, potentially complicating bicycle circulation and requiring use of heavily traveled Route 9; however, under this alternative, bicyclists would have the additional option of touring the western portion of this site along the 1.1 mile Service Road Trail, as well.

Existing roads and trails at this site offer the potential to establish an accessible route between the mansion and the formal gardens, although an assessment of existing conditions, including grade changes, would be needed. It should be noted that the gardens include tiers and stairs. Pedestrian access throughout this site would continue along the roads and the Service Road Trail but would also continue to be supplemented by a variety of facilities including garden paths and the Vanderbilt Service Road. Under this alternative, the only trail segment that would continue to be open to pedestrians only would be the 0.4 mile Garden Trail. The NPS would add additional interpretation of the formal gardens, which can be accessed via the Garden Trail, south of the Vanderbilt Mansion. All other trails within this site would be designated as multi-use trails and would be open to bicycle use. Some pedestrians may find that allowing bicycles along the Service Road Trail, which was previously open only to pedestrians, disrupts their experience; however, the NPS would encourage use of trail etiquette on trailhead kiosks and throughout the sites to minimize any user conflicts. After an adjustment period, visitors would adapt to the new pattern of use.

At the northern end of the Vanderbilt Mansion NHS, Bard Rock is the northern terminus of the Hyde Park Trail and a popular spot for picnicking. Under alternative B, the NPS would provide additional amenities, including a kiosk with maps and secure boat storage for day use. Increased wayfinding, orientation, and directional signs would allow users of the Hudson River Greenways Water Trail to access the site, as an alternative to vehicular access. They could store their boats securely and take advantage of the trail system at Vanderbilt Mansion NHS and explore the other sites, as well, if they so desire. The NPS would add interpretation of this area's historic use as the Vanderbilt boat house site and a Colonial era landing site.

Connections Outside NPS Jurisdiction

Under alternative B, NPS would work with the Town of Hyde Park and NYDOT to improve connectivity between the sites through both infrastructure improvements as well as signs and wayfinding improvements. As part of the wayfinding and orientation improvements, the NPS would coordinate with relevant organizations to add a kiosk with maps, directional signage, and bicycle parking at the Historic Train Station off River Road. The kiosk would provide additional information regarding the site's use as arrival/departure point for the King and Queen of England during their 1939 visit.

The NPS also would coordinate with relevant agencies to improve infrastructure connecting the sites. The NPS would work with Hyde Park to extend the existing sidewalk along Route 9 from where it ends to connecting to the Home of FDR NHS. The NPS would also work with Hyde Park and NYDOT to improve the intersection of Route 9G with the entrance to Eleanor Roosevelt NHS. Specifically, the NPS would recommend that consideration should be given to

installing a high-visibility crosswalk and/or advance warning signs that would have increased visibility over the existing crosswalks and warning sign. The NPS would also coordinate with relevant agencies to extend the sidewalk along Route 9 to connect the entire length between the Vanderbilt Mansion NHS and the Home of FDR NHS. These improvements would increase the safety of those visitors who may wish to travel between sites on foot or by bicycle. Because of the decreased safety concerns, visitors would be more likely to enjoy such experiences.

Overall

As described above, alternative B would result in short-term, minor, adverse impacts on visitor use and experience as visitors adapt to the shared use by bicycles and pedestrians on trails previously designated as pedestrian only and new trails. This change in use would be detectable, but should only alter visitor experience slightly, if at all. There would also be a long-term, beneficial impact on visitor use and experience due to the establishment of several multi-use trail segments which would open the Home of FDR NHS and the Vanderbilt Mansion NHS to wider use by bicyclists and would provide increased connectivity within the sites. The establishment of additional interpretive and orientation opportunities along the trails and at secondary access points, additional opportunities to stop and rest at benches along the trails, and establishment of universally accessible routes at key locations would also contribute to the long-term, beneficial impact on visitor use and experience. Additionally, the NPS would work with the town of Hyde Park and NYDOT to provide additional improvements outside the site to increase connectivity between sites and increase the safety of travel between sites.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on visitor use and experience within the study area. These actions include Hyde Park Drive-In improvements, water access at Crum Elbow Point, the Roosevelt Ride, the Hudson River Greenway Water Trail, and the Albany Post Road Corridor Study as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, beneficial impacts of alternative B, would result in long-term, beneficial cumulative impacts on soils and topography within the study area. Alternative B would contribute an appreciable beneficial increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would continue to have long-term, moderate, adverse impacts on visitor use and experience because visitors would continue to be aware of the lack of interpretive signs throughout the trail system, the discontinuous trail types and uses, limited opportunities for authorized bicycle use within the sites, and the lack of connectivity between sites (and the associated safety issues) and would likely be able to express an opinion about these conditions. Past, present, and reasonably foreseeable future actions would cause long-term, beneficial impacts on visitor use and experience. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of

alternative A, would result in long-term, moderate, adverse cumulative impacts on visitor use and experience within the study area. Alternative A would contribute an appreciable adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would result in short-term, minor, adverse impacts on visitor use and experience as visitors adapt to the shared use by bicycles and pedestrians on trails previously designated as pedestrian only and new trails. This change in use would be detectable, but should only alter visitor experience slightly, if at all. There would also be a long-term, beneficial impact on visitor use and experience due to the establishment of several multi-use trail segments which would open the Home of FDR NHS and the Vanderbilt Mansion NHS to wider use by bicyclists and would provide increased connectivity within the sites. The establishment of additional interpretive and orientation opportunities along the trails and at secondary access points, additional opportunities to stop and rest at benches along the trails, and establishment of universally accessible routes at key locations would also contribute to the long-term, beneficial impact on visitor use and experience. Additionally, the NPS would work with the town of Hyde Park and NYDOT to provide additional improvements outside the site to increase connectivity between sites and increase the safety of travel between sites. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, beneficial impacts of alternative B, would result in long-term, beneficial cumulative impacts on soils and topography within the study area. Alternative B would contribute an appreciable beneficial increment to the cumulative impact.

SOILS AND TOPOGRAPHY

METHODOLOGY

All available information on soils potentially impacted in the study area was compiled. Where possible, map locations of sensitive soils were compared with locations of proposed development and modifications of existing facilities. Predictions about short- and long-term site impacts were based on previous projects with similar soils. The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** Impacts on soils would be below or at the lower levels of detection.
- Minor:** The impacts on soils would be detectable and small. Mitigation may be needed to offset adverse impacts and would be relatively simple to implement and likely be successful.
- Moderate:** The impacts on soils would be readily apparent and result in a change to soils a relatively wide area. Mitigation measures would be necessary to offset adverse impacts and likely be successful.
- Major:** The impacts on soils would be readily apparent and would substantially change the character of the soils over a large area in and out of the sites. Mitigation measures to offset adverse impacts would be needed, extensive, and their success could not be guaranteed.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, the existing trails would continue to be used in their current state, with routine maintenance being preformed as necessary and as time and funding allow. Continued use of the sites' over 15 miles of authorized trails would result in continued impacts on mostly Nassau-Cardigan soil complexes with some compaction occurring in Hoosic gravelly loam, Dutchess-Cardigan complex, Fredon silt loam, Knickerbocker fine sandy loam, Nassau-Rock outcrop complex, and Sun silt loam as well.

Impacts on soils due to ongoing use include compaction, muddiness, and erosion. Compacted soils are less pervious to water; therefore, in some places along unpaved trails, ponding of water following rain events would continue to cause muddy conditions in a few short portions of the trails. Compaction would continue to cause the treads of trails to become lower than surrounding soils which causes runoff to be channeled along these trails. Erosion is also an issue in a few spots, especially along the relatively steep slopes adjacent to the Service Road Trail at the Vanderbilt Mansion NHS. Also, despite NPS signs stating that the single track trails branching off the Roosevelt Farm Lane are not for mountain bike use, some unauthorized use may continue to occur on the Red, Yellow, and Blue Trails (a total of 1.62 miles) as well as the other 5.1 miles of unauthorized trails in this area. These trails are all single track trails. Drainage and erosion issues would be addressed as time and funding allow. There would not be any noticeable changes in topography. Alternative A would continue to have long-term, minor, adverse impacts on soils and topography because, as described above, impacts resulting from unauthorized use of unauthorized trails may cause detectable compaction and erosion of soils along these trails.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on soils and topography within the study area. These actions include the Hyde Park Drive-In improvements and water access at Crum Elbow Point. Both of these actions would involve additional development of infrastructure that would further enhance the sites' trail system. These past, present, and reasonably foreseeable future actions would have the potential for short-term disturbance of soils during construction activities and long-term compaction. Once again, standard best management practices would mitigate against erosion of soils both in the short and long term. These actions would cause long-term, minor, adverse impacts on soils and topography. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, a total of 1.3 miles of new trails would be constructed at the Home of FDR HNS in addition to the existing 6.4 miles of trails. Most of this length would comprise the 0.5 mile connection between the Ice Pond and the Fish Pond, the 0.8 mile new connection along the Morgan Boundary Road from the Forest Trail and connecting to Route 9, and the 0.5 mile trail from the Meadow Trail leading south towards the Culinary Institute of America. All three of these trails would be 10-foot wide trails and would therefore result in approximately 2.2 acres of soil being disturbed during construction. The 0.8 mile connection along the Meadow Trail would be designated as a multi-use trail segment. Along the existing trails, 0.6 miles of the Forest Trail (along the northern boundary of the site) would be designated as a multi-use connection; however, soil disturbance would be limited to vegetation removal required for widening in some sections.

In the Roosevelt Farm and Forest, several new mountain bike trail loops (which would also be open to pedestrian use) would be designated in addition to the 1.7 miles of new multi-use trails described above. Under this alternative, the NPS would create new trail loops fully within NPS jurisdiction by authorizing 2.3 miles of existing unauthorized trails and by constructing 0.5 miles of trails to create loops. These trails would be single track trails, with widths of only a few feet. Therefore, approximately 0.2 acres of additional soil would be compacted by adding 0.5 miles of new trails to what are currently unauthorized trails. These trails would be subject to heavier use than is currently experienced following the designation as authorized trails. The impacts would be similar to those experienced along other trails, including compaction of soils and increased erosion along the trail tread.

Conversely, approximately 2.8 miles of existing unauthorized trails would continue to be closed. The NPS would physically block unauthorized trails using brush or other natural materials to prevent continued use. Additionally, the opportunity to use the new network of authorized trails would reduce the desire of visitors to use these unauthorized trails. This would remove compaction pressures from approximately 1 acre of soils.

At the Eleanor Roosevelt NHS, a new quarter-mile pedestrian loop trail, approximately 5 feet wide, would be constructed off of Carlyle Road to provide access to the Secret Woods. Some of this trail may be elevated to a boardwalk to avoid impacts to wetland resources (see the wetlands section below), but otherwise, disturbance of soils related to the construction of this trail would be up to 0.15 acres.

Lastly, there may be some soil disturbance associated with grading of 1.1 mile Service Road Trail at the Vanderbilt Mansion NHS where it would be widened to accommodate the multi-use trail designation. Widening this trail to be 10 feet would require disturbance of at least approximately 1.3 acres of soils. Additionally, because this trail travels along an area where the topography slopes down to the Hudson River, some additional grading outside this area may be required. An attempt would be made to balance cut and fill to limit impacts on topography.

In all cases where some widening and/or grading would be necessary to create a new trail or widen the existing trail, surface organic materials (e.g., twigs, leaves, and needles) and organic soils may be removed from treads during trail construction. In addition, the underlying mineral soils would be compacted during construction and initial use to form a durable tread substrate that supports trail traffic. Soils would be exposed during the construction period (up to a few weeks for each segment). However, erosion of exposed soils would be controlled through use of standard best management practices, and an approved sediment and erosion control plan would be implemented, if warranted. Following construction, these soils would be subject to compaction and minor erosion from visitor use of the new trails. Compaction and erosion would be minimized through implementation of trail designs, as described in appendix B.

As described above, alternative B would result in short-term, minor, adverse impacts on soils and topography because exposure of soils during construction would be detectable but mitigation would be relatively simple to implement and likely be successful. Additionally, alternative B would cause long-term, negligible, adverse impacts on soils and topography because the increases in compaction and erosion along 1.6 miles of new trails and 3.1 miles of newly authorized trails would be at or below the level of detection detectible. There would be long-term, beneficial impacts to the 2.8 miles of unauthorized trails that would be physically closed to continued use which would prevent additional compaction and erosion.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on soils and topography within the study area. These actions include the Hyde Park Drive-In improvements and water access at Crum Elbow Point as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would continue to have long-term, minor, adverse impacts on soils and topography because, as described above, impacts resulting from use of unauthorized trails may cause detectible compaction and erosion of soils along these trails. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would result in short-term, minor, adverse impacts on soils and topography because exposure of soils during construction would be detectable but mitigation would be relatively simple to implement and likely be successful. Additionally, alternative B would cause long-term, negligible, adverse impacts on soils and topography because the increases in compaction and erosion along 1.6 miles of new trails and 3.1 miles of newly authorized trails would be at or below the level of detection detectible. There would be long-term, beneficial impacts to the 2.8 miles of unauthorized trails that would be physically closed to unsanctioned use which would prevent additional compaction and erosion. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

WATER RESOURCES

METHODOLOGY

The NPS Management Policies 2006 state that the NPS will “take all necessary actions to maintain or restore the quality of surface waters and ground waters within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations (sec. 4.6.3).” As described in chapter 3, the water quality at the sites is considered to be relatively good, although it is susceptible to the nonpoint source pollutants typical of areas undergoing suburban development. With this context in mind, the following impact thresholds are used to describe the relative changes in surface waters and water quality within the study area:

- Negligible:** Impacts are chemical, physical, or biological impacts that would not be detectable, would be well below water quality standards or criteria, and would be within historical or desired water quality conditions.
- Minor:** Impacts (chemical, physical, biological) would be detectable, but would be well below water quality standards or criteria and within historical or desired water quality conditions.
- Moderate:** Impacts (chemical, physical, biological) would be detectable, but would be at or below water quality standards or criteria and within historical or desired water quality conditions.
- Major:** Impacts (chemical, physical, biological) would be detectable, and would be frequently altered from the historical baseline or desired water quality conditions, and/or chemical, physical, or biological water quality standards or criteria would be slightly and singularly exceeded on a short-term basis.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, there would be no changes to the existing trail system as part of a comprehensive plan. Any maintenance or improvements would be conducted on an as-needed basis, when time and funding become available. Impacts on water resources from ongoing use and maintenance of the authorized trail network would be minimal because streams would be either crossed by bridges or would be passed under roadways or trails by way of culverts. Use of bridges and culverts would continue to cause shading across short portions of the streams and brief portions of artificially channeled hydrology. The shading would continue to have the potential to cause extremely localized changes in streambed vegetation and associated ecology. The channeled hydrology could increase flow rate during storms and thereby increase erosion. Along unauthorized trails, mountain bike users may travel through a couple of streams (Maritje Kill near the northern boundary of the site and a tributary to Maritje Kill south of the Yellow Trail) without accommodations such as bridges or culverts, which could continue to cause compaction and erosion of the stream bed and can cause soil erosion from nearby trail use to run directly into streams. As such, alternative A would result in ongoing long-term, minor, adverse impacts on water resources because the alterations in stream characteristics and water quality associated with shading, channeled hydrology, and use of unauthorized trails may be detectable but would be within historical, desired water quality conditions.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on water resources within the study area. These actions include the Hyde Park Drive-In improvements. The Hyde Park Drive-In improvements would involve the addition of a short section of boardwalk over a stream crossing. This boardwalk would have the potential for short-term disturbance of soils adjacent to the stream during construction activities and some long-term shading of the stream. These actions would cause long-term, minor, adverse impacts on water resources. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on water resources within the study area. Alternative A would contribute a noticeable adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, the NPS would continue to maintain the existing authorized trails and would add 1.6 miles of additional trails to enhance the existing trail system. Impacts on water resources from ongoing use and maintenance of the existing authorized trail network would be minimal, as described under alternative A, because streams would be either crossed by relatively narrow bridges or would be passed under roadways or trails by way of culverts. Impacts on streams due to shading from bridges and channels through culverts would remain at or below levels of detection.

The new trail along the Morgan Boundary Road (along the northern border of the Home of FDR NHS) would require a crossing an unnamed stream just downstream of the Morgan Ice Pond on the adjacent property, and depending upon final trail alignment, the new connection between the Ice Pond and the Fish Pond may also require a water crossing. Stream crossings are likely to take the form of timber pile supported boardwalk-type structures, although it is possible that the Morgan Boundary Road trail could cross the stream on an existing historic bridge. The new Secret Woods Trail would be open only to pedestrians and would be approximately 5 feet wide. The stream crossing associated with this trail would also be a timber pile supported boardwalk-type structure but would be narrower than the crossings associated with the 10-foot wide trail. The impacts related to the installation of these new crossings would be soil disturbance associated with installation of the timber pile and the subsequent shading of a segment of the stream. Erosion and associated sedimentation during construction would be limited by implementation of best management practices. Effects of shading could be reduced by leaving small gaps between planks to avoid completely blocking sunlight from reaching the streambed. There would still be a reduction in sunlight reaching approximately 10 feet where trail crossings at the Home of FDR NHS occur and approximately 5 feet where the Secret Woods Trail would cross. Because this may limit growth of some plants in these stretches of river, subtle changes in biological composition could occur in these short stretches of stream.

Additionally, under alternative B, the NPS would establish authorized mountain bike trail loops in the Roosevelt Farm and Forest and would physically block those unauthorized trails that are to remain closed. Trail use along the authorized trails would be expected to increase, but use of unauthorized trails would substantially decrease (if not cease completely). The trail crossing across Maritje Kill would be closed. There is another stream crossing across a tributary to Maritje Kill between Roosevelt Farm Lane and the Yellow Trail. Instead of allowing continued bicycle crossing through the stream, the NPS would coordinate with local volunteers to implement design guidelines to minimize impacts on water resources such as the construction of a small bridge such as the one shown in chapter 3 and currently used for pedestrian crossings. These actions would prevent continued sedimentation and compaction of the stream bed. Impacts would be limited to a small amount of shading from the bridge.

As described above, alternative B would have short-term, minor, adverse impacts on water resources during installation of new timber piles for new stream crossings associated with the trail at the western portion of the Home of FDR NHS and the Secret Woods Trail. Measures would be taken to avoid sedimentation during construction; impacts may be locally detectable, but would be well within desired conditions. Alternative B would have long-term, minor, adverse impacts on water resources due to shading by bridges which could cause a locally detectable change in the biology of the streambed, but conditions would remain consistent with historic conditions. Finally, alternative B would also have long-term, beneficial impacts on water resources because formalizing mountain bike trails would allow NPS to implement trail management measures such as placement of a bridge across the remaining stream crossing; the remaining stream crossing would be physically blocked from additional use.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on water resources within the study area. This action includes the Hyde Park Drive-In improvements as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on water resources within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would result in ongoing long-term, minor, adverse impacts on water resources because the alterations in stream characteristics and water quality may be detectable but would be well within historical, desired water quality conditions. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on wetland resources within the study area. Alternative A would contribute a noticeable adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would have short-term, minor, adverse impacts on water resources during installation of new timber piles for new stream crossings associated with the Home of FDR NHS trails and the Secret Woods Trail. Measures would be taken to avoid sedimentation during construction; impacts may be locally detectable, but would be well within desired conditions. Alternative B would have long-term, minor, adverse impacts on water resources due to shading by bridges which could cause a locally detectable change in the biology of the streambed, but conditions would remain consistent with historic conditions. Finally, alternative B would also have long-term, beneficial impacts on water resources because formalizing mountain bike trails would allow NPS to implement trail management measures such as placement of a bridge across the remaining stream crossing; the remaining stream crossing would be physically blocked from additional use. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

WETLANDS

METHODOLOGY

This section analyzes the impacts of the proposed action on wetlands. Mapping of the existing resources were drawn from the USFWS's National Wetland Inventory and the NYDEC wetland mapping. This mapping was used along with field notes by certified wetlands scientists (not a

formal delineation) along with mapping of proposed trail improvements to assess the potential for impacts to wetland resources. The thresholds for the intensity of an impact are as follows:

- Negligible:** Wetland resources would not be affected or the impacts on the resources would be below or at the lower levels of detection.
- Minor:** The impacts on wetland resources would be detectable and relatively small in terms of area and the nature of change. The action would affect a limited number of individual plants within the wetlands.
- Moderate:** The impacts on wetland resources would be readily apparent over a relatively small area, but the impact could be mitigated by restoring previously degraded wetlands. The action would have a measurable impact on plants within the wetlands, but all species would remain indefinitely viable.
- Major:** The impacts on wetland resources would be readily apparent over a relatively large area. The action would have measurable consequences for the wetland area that could not be mitigated. Wetland species dynamics would be upset, and plant species would be at risk of extirpation from the area.

ALTERNATIVE A: NO-ACTION

Impact Analysis

Under the no-action alternative, there would be no changes to the existing trail system as part of a comprehensive plan. Any maintenance or improvements would be conducted on an as-needed basis, when time and funding become available. At the Home of FDR NHS, the Cove Trail would continue to provide access to Roosevelt Cove, and this terminus of the Cove Trail would continue to be closed when flooded. An unauthorized mountain bike trail in at the northern border of the Roosevelt Farm and Forest would continue to provide access, albeit unauthorized to a small emergent marsh wetland system (as indicated by the NYDEC) associated with Maritje Kill. Ongoing unauthorized use of this trail by mountain bikers would cause narrow areas of soil compaction and trampling of wetland vegetation across up to approximately 500 feet of wetland resources. All other authorized trails travel adjacent to isolated wetland areas but do not impact them. As described above, alternative A would result in long-term, minor, adverse impacts on wetlands because compaction of wetland soils and removal of wetland vegetation from ongoing use of unauthorized trails would be detectable but relatively small in terms of area and the nature of change; unauthorized trail use would affect a limited number of individual plants within the wetlands.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on wetlands within the study area. These actions include the Hyde Park Drive-In improvements. This action would involve the addition of a short section of boardwalk over a stream crossing. This boardwalk would have the potential for short-term disturbance of wetland soils during construction activities and some long-term shading of wetland vegetation. These actions would cause long-term, negligible, adverse impacts on wetlands. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term,

minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on wetlands within the study area. Alternative A would contribute a noticeable adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, the NPS would add 4.7 miles of additional trails to enhance the existing trail system. At the Home of FDR NHS, the Cove Trail would continue to provide access to Roosevelt Cove, closing when flooding becomes an issue. The new trail connections along the northern boundary of the Home of FDR NHS, between the Fish Pond to the Ice Pond, and south to the Culinary Institute of America would all avoid the scattered wetlands in their vicinity. Trail widening at this site would also avoid impacts on adjacent wetlands. Within the Roosevelt Farm and Forest, the NPS would establish 2.8 miles of mountain biking trails (which would also be open to pedestrians); however, these trails would avoid wetland areas. The existing unauthorized trail traversing the wetlands associated with Maritje Kill for up to approximately 500 feet would remain closed and would be physically blocked from additional use, which would eliminate any continued impacts related to unauthorized use. Trail users would be expected to use the newly designated authorized trails instead and avoid the unauthorized trails.

At the Eleanor Roosevelt NHS, the establishment of the Secret Woods Trail would require that the stream feeding Val-Kill Pond be crossed to provide access to the Secret Woods. There are indications that there is a small palustrine forested wetland associated with this stream; however, it is possible that depending upon the final alignment of the trail and the actual location of the wetland boundaries, it is possible that this wetland may be avoided. If it cannot be avoided, trail design would call for a boardwalk over the wetlands to minimize impacts. As such, these impacts would be limited to some disturbance of the soils associated with beams to support this boardwalk and some shading of the wetland vegetation below the boardwalk. The maximum length of impact to the wetland is expected to be about 200 feet of 5-foot wide boardwalk, for a total of 1,000 square feet (0.02 acres) of shading. Overall functions of the wetland would not be noticeably altered.

There are no anticipated impacts to wetlands associated with the proposed improvements at Vanderbilt Mansion NHS.

As described above, alternative B would have long-term, beneficial impacts associated with the decrease in use along the closed unauthorized trails where some slight impacts on wetlands may currently occur. Alternative B also would have long-term, negligible to minor, adverse impacts on wetlands because although the NPS may be able to avoid impacts on wetlands during construction of the Secret Woods Trail, there is also the potential that impacts on wetland resources would be detectable and relatively small in terms of area and the nature of change.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on soils and topography within the study area. This action includes the Hyde Park Drive-In improvements, as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible to minor, adverse impacts of alternative B, would result in long-term, negligible to minor, adverse cumulative impacts on wetlands within the study area. Alternative B would contribute an imperceptible to noticeable adverse increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would result in long-term, minor, adverse impacts on wetlands because compaction of wetland soils and removal of wetland vegetation from ongoing use of unauthorized trails would be detectable but relatively small in terms of area and the nature of change; unauthorized trail use would affect a limited number of individual plants within the wetlands. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, minor, adverse cumulative impacts on soils and topography within the study area. Alternative A would contribute a noticeable adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would have long-term, beneficial impacts associated with the decrease in use along the closed unauthorized trails where some slight impacts on wetlands may currently occur. Alternative B also would have long-term, negligible to minor, adverse impacts on wetlands because although the NPS may be able to avoid impacts on wetlands during construction of the Top Cottage Trail, there is also the potential that impacts on wetland resources would be detectable and relatively small in terms of area and the nature of change. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible to minor, adverse impacts of alternative B, would result in long-term, negligible to minor, adverse cumulative impacts on wetlands within the study area. Alternative B would contribute an imperceptible to noticeable adverse increment to the cumulative impact.

VEGETATION

METHODOLOGY

Available information on plants and vegetative communities potentially impacted by the implementation of the proposed trails master plan was provided by NPS staff and is summarized in “Chapter 3: Affected Environment.” The thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** No vegetation would be affected, or some individual plants could be affected as a result of the alternative, but there would be no impact to native species populations. The impacts would be on a small scale.
- Minor:** The alternative would affect some individual plants and would also affect a relatively small portion of that species' population. Mitigation to offset adverse impacts could be required and would likely be successful.
- Moderate:** The alternative would affect some individual plants and would also affect a sizeable segment of the species' population over a relatively large area. Mitigation to offset adverse impacts could be extensive but would likely be successful.
- Major:** The alternative would have a considerable impact on plant populations and affect a relatively large area in and out of the sites. Mitigation measures to offset the adverse impacts would be required and extensive, and success of the mitigation measures would not be guaranteed.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, the existing trails would continue to be used in their current state, with routine maintenance being performed as necessary and as time and funding allow. Continued use of the sites' approximately 15 miles of authorized trails (including shared roadways) would result in continued displacement of vegetation from existing paths where soil compaction might prevent grasses or understory vegetation that might otherwise take root. Some of the sites' trails travel through manicured lawns (such as the Garden Trail at the Vanderbilt Mansion NHS) or more natural grassy meadows (such as the Meadow Trail at the Home of FDR NHS), but most of the sites' trails travel through forest. The most predominant forest type at the sites is hemlock-northern hardwood forest, although there are a few other community types intermingled, including several historic plantation stands (NPS 2009). The reduction of vegetation along 5.1 narrow linear corridors would continue to cause no noticeable alteration in the overall vegetative communities at the sites. Disturbance to the vegetation would be limited to trampling and possible pruning by unauthorized users. Some displacement of vegetation may take place due to compaction of soils along these trails. As such, alternative A would continue to have long-term, negligible, adverse impacts on vegetation because some individual plants could be affected as a result of the alternative, but there would be no impact to native species populations.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on vegetation within the study area. These actions include the Hyde Park Drive-In improvements. This action would involve additional development of infrastructure that would further enhance the sites' trail system and may call for the removal of some vegetation. This actions would cause long-term, negligible, adverse impacts on vegetation. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible, adverse impacts of alternative A, would result in long-term, negligible, adverse

cumulative impacts on vegetation within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, the impacts on vegetation would be similar to the impacts on soils because the disturbance of soils can be associated with removal of vegetation and because compaction of soils has the potential to inhibit growth of vegetation.

As described above, under alternative B, a total of 1.3 miles of new trails would be constructed at the Home of FDR HNS in addition to the existing 6.4 miles of trails. Most of this length would comprise the 0.5 mile connection between the Ice Pond and the Fish Pond, the 0.8 mile new connection along the Morgan Boundary Road from the Forest Trail and connecting to Route 9, and the 0.5 mile trail from the Meadow Trail leading south towards the Culinary Institute of America. Both these trails would be 10-foot wide trails and would therefore result in approximately 2.2 acres of soil being disturbed during construction, and some trees may need to be removed within this area to allow for trail construction. Compaction and maintenance of these new trails would prevent revegetation following construction. Some of these trees may be pines associated with the historic plantation in this vicinity, although these trees would be avoided if possible. A few additional trees may need to be removed to allow for widening of 0.9 miles of existing trails.

In addition to the 2.8 miles of new trails described above, several new mountain bike trail loops (which would also be open to pedestrian use) would be designated in the Roosevelt Farm and Forest. The NPS would create new trail loops fully within NPS jurisdiction by authorizing 2.3 miles of existing unauthorized trails and by constructing 0.5 miles of trails to create loops. These trails would be single track trails, with widths of only a foot or two. Therefore, approximately 0.2 acres of additional soil would be compacted by adding 0.5 miles of new trails to what are currently unauthorized trails. However, use of these trails, once authorized would be expected to increase which may intensify existing trampling and maintenance-related removal of vegetation.

Conversely, approximately 2.8 miles of existing unauthorized trails would continue to be closed to use. The NPS would physically block unauthorized trails using brush or other natural materials to prevent continued use. This would remove compaction pressures from approximately 1.0 acre of soils. Because of the narrow, winding nature of these trails, it is anticipated that very few trees would need to be removed (if any) to accommodate these new connections and would allow vegetation to reclaim the area. Over time, roots could loosen previously compacted soils, and eventually, these trails would be expected to revegetate naturally.

At the Eleanor Roosevelt NHS, a new quarter-mile pedestrian loop trail, approximately 5 feet wide, would be constructed off of Carlyle Road to provide access to the Secret Woods. Some of this trail may be elevated to a boardwalk to avoid impacts to wetland resources (see the wetlands

section below), but otherwise, disturbance of soils related to the construction of this trail would be up to 0.15 acres.

Lastly, there may be a few trees removed during grading of 1.1 mile Service Road Trail at the Vanderbilt Mansion NHS where it would be widened to accommodate the multi-use trail designation. Widening this trail to be 10 feet would require disturbance of at least 1.3 acres.

As described above, alternative B would result in long-term, minor, adverse impacts on vegetation because some individual plants (a relatively small portion of the population) would be removed and native vegetation in this area would be subject to ongoing displacement due to compaction and trail maintenance. There would be long-term, beneficial impacts to the 2.8 miles of unauthorized trails that would be physically closed to unsanctioned use because the removal of use that could interfere with vegetation.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on vegetation within the study area. These actions include the Hyde Park Drive-In improvements, as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on vegetation within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would continue to have long-term, negligible, adverse impacts on vegetation because some individual plants could be affected as a result of the alternative, but there would be no impact to native species populations. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible, adverse impacts of alternative A, would result in long-term, negligible, adverse cumulative impacts on vegetation within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would result in long-term, minor, adverse impacts on vegetation because some individual plants (a relatively small portion of the population) would be removed and native vegetation in this area would be subject to ongoing displacement due to compaction and trail maintenance. There would be long-term, beneficial impacts to the 2.8 miles of unauthorized trails that would be physically closed to unsanctioned use because the removal of use that could interfere with vegetation. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative B, would result in long-term, minor, adverse cumulative impacts on vegetation within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

ARCHEOLOGICAL RESOURCES

METHODOLOGY

Archeological resources are the remains of past human activity and records documenting the scientific analysis of the remains (NPS DO 28: Cultural Resource Management Guideline). For purposes of analyzing potential impacts to archeological resources, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** Impact is at the lowest levels of detection with neither adverse nor beneficial consequences.
- Minor:** Disturbance of a site(s) results in little, if any, loss of integrity.
- Moderate:** Disturbance of a site(s) results in loss of integrity.
- Major:** Loss of a site(s) results in loss of integrity.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, the lack of any proposed improvements to the existing trail network as part of a comprehensive plan would avoid impacting the areas that have been identified as archeologically sensitive in previous surveys and assessments. The NPS would continue to maintain the existing 15 miles of authorized trails throughout the sites and would continue to discourage use of unauthorized trails, specifically in the Roosevelt Farm and Forest. No specific archeological resources have been encountered on the trail to date, except for an area in the vicinity of the intersection of the Service Road Trail and the east-west roadway that leads to Bard Rock (PAL 2009). Users staying on designated trails are unlikely to disturb any archeological resources; however, most areas along the length of the trails have been assigned high to moderate archeological sensitivity (PAL 2009). The continuation of uncoordinated uses on many trails and the potential for unauthorized mountain bike use in the Roosevelt Farm and Forest could uncover and/or disturb archeological resources. Alternative A would result in long-term, negligible to minor, adverse impacts to archeological resources because disturbance of archeological sites would most likely be below the level of detection and any potential impacts would be expected to result in little, if any, loss of integrity.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on archeological resources. These actions include the Hyde Park Drive-In improvements and water access to Crum Elbow Point. These actions would involve additional development of infrastructure that would further enhance the sites' trail system, but may cause ground disturbance that may affect archeological resources. These actions would have the potential to cause long-term, negligible to minor, adverse impacts on archeological resources. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, minor, adverse impacts of alternative A, would result in long-term, negligible to

minor, adverse cumulative impacts on archeological resources within the study area. Alternative A would contribute an imperceptible increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, construction of new trail connections, the widening of some existing trails, and the formalized opening of existing unauthorized trails would have the potential to impact archeological resources, due to the presence of previously identified resources and the assessment of high to moderate archeological sensitivity in many areas of all three sites. No specific studies have been done in most areas where trail construction or widening would take place; however, given the number of artifacts found during nearby studies, there exists the potential for additional archeological resources to be found in all potential areas of disturbance.

Home of FDR National Historic Site

A total of 1.3 miles of new trails would be constructed at the Home of FDR HNS in addition to the existing 6.4 miles of trails. Most of this length would comprise the 0.5 mile connection between the Ice Pond and the Fish Pond, the 0.8 mile connection along the Morgan Boundary Road from the Forest Trail and connecting to Route 9, and the 0.5 mile trail from the Meadow Trail leading south towards the Culinary Institute of America. These trails would be 10 feet wide and would therefore have the potential to impact archeological resources in an area of approximately 2.2 acres where soils may be disturbed and vegetation may be removed for trail construction. Along the existing trails 0.6 miles of the forest Trail (along the northern boundary of the site), 0.2 miles of the Cove Trail, and 0.1 miles of the Meadow Trail would be designated as 10-foot wide connections. There may be some disturbance of soils and/or removal of vegetation along these trails, although not to the extent expected for the new connections.

In addition to trails above, several new mountain bike trail loops (which would also be open to pedestrian use) would be designated in the Roosevelt Farm and Forest. Although some of the trails included in these new loops are existing trails, the NPS currently discourages use of these trails but would allow use of new formalized trails under this alternative, which would likely cause an increased use of these trails. Specifically, the NPS would create new trail loops fully within NPS jurisdiction by authorizing 2.3 miles of existing unauthorized trails and by constructing 0.5 miles of trails to create loops. These trails would be single track trails, with widths of only a foot or two. Therefore, only 0.2 acres of additional soil would be compacted by adding 0.5 miles of new trails to what are currently unauthorized trails. Approximately 0.8 acres of existing unauthorized trails would be opened to authorized use and would be subject to continued (if not increased) potential for impacts on archeological resources.

Conversely, approximately 2.8 miles of existing unauthorized trails would continue to be closed. The NPS would physically block unauthorized trails using brush or other natural materials to prevent continued use. Providing authorized trails and physically blocking the remaining

unauthorized trails would remove use from approximately 1 acre of trail and would end any associated potential impacts on archeological resources in this area.

Eleanor Roosevelt National Historic Site

At Eleanor Roosevelt NHS, a new pedestrian trail would be constructed off of Carlyle Road into the historic plantation patch known as the Secret Woods. The new trail would be approximately a quarter of a mile long and approximately 5 feet wide. This would result in disturbance of approximately 0.15 acres of soils in addition to potentially installing a stream crossing. The disturbance associated with these activities would have the potential to disturb previously undiscovered archeological resources, should there be any archeological sensitivity in the area.

Vanderbilt Mansion National Historic Site

Lastly, there may be some soil disturbance associated with grading of the 1.1 mile Service Road Trail at the Vanderbilt Mansion NHS where it would be widened to accommodate the multi-use trail designation. Widening this trail to be 10 feet would have the potential to disturb archeological resources because approximately 1.3 acres of soils would be disturbed for this widening. No specific archeological resources have been encountered on the trail to date, except for an area in the vicinity of the trail's intersection of the Service Road Trail and the east-west section that leads to Bard Rock (PAL 2009). Most areas along the length of the trail have been assigned high to moderate archeological sensitivity (PAL 2009).

Overall

Other improvements in the trails master plan include additional interpretive and wayfinding signs, benches, and bicycle parking racks at all 6 trailheads. The disturbance to soils associated with these improvements would be minimal; therefore, these improvements are not expected to impact any archeological resources.

Any proposed ground disturbance associated with establishment of new trails or widening of existing trails, including removal of vegetation and grading, would be preceded by archeological investigations to ensure that there are no significant archeological resources that could be impacted by the work. Should archeological resources be encountered, the NPS would take appropriate steps to avoid, minimize, or mitigate any adverse effects to the resources.

Therefore as discussed above, alternative B would result in a long-term, negligible to minor, adverse impact on archeological resources because either no archeological resources would be encountered or disturbance of archeological sites would result in little, if any, loss of integrity. Alternative B would also result in a long-term, beneficial impact on archeological resources because the physical closure of 2.8 miles of unauthorized trails would reduce continued unauthorized use of these trails and the associated potential for disturbance of archeological resources.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on archeological resources. These actions include the Hyde Park Drive-In

improvements and water access to Crum Elbow Point and are described under alternative A. These actions, when combined with the long-term, negligible to minor, adverse impact of alternative B, would have a long-term, negligible to minor, adverse cumulative impact on archeological resources. Alternative B would contribute a noticeable adverse increment to cumulative impacts.

CONCLUSION

Alternative A: No-action

Overall, alternative A would result in long-term, negligible to minor, adverse impacts to archeological resources because disturbance of archeological sites associated with continued use of the trail system would most likely be below the level of detection and any potential impacts would be expected to result in little, if any, loss of integrity. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible to minor, adverse impacts of alternative A, would result in long-term, negligible to minor, adverse cumulative impacts on archeological resources within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would result in a long-term, negligible to minor, adverse impact on archeological resources because either no archeological resources would be encountered or disturbance of archeological sites would result in little, if any, loss of integrity. There would be long-term, beneficial impacts to the 2.8 miles of unauthorized trails due to physical closure to unsanctioned use. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible to minor, adverse impacts of alternative B, would result in long-term, negligible to minor, adverse cumulative impacts on archeological resources within the study area. Alternative B would contribute a noticeable adverse increment to the cumulative impact.

CULTURAL LANDSCAPES

METHODOLOGY

Cultural landscapes are the result of the long interaction between people and the land, and the influence of human beliefs and actions over time upon the natural landscape. Shaped through time by historical land-use and management practices, as well as politics and property laws, levels of technology, and economic conditions, cultural landscapes provide a living record of an area's past, as well as a visual chronicle of its history. In order for a cultural landscape to be listed on or eligible for listing on the National Register, it must possess historic integrity of those features necessary to convey its significance, particularly with respect to location, setting, design, feeling, association, workmanship, and materials. The National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (NPS 1990) provides a comprehensive discussion of these characteristics.

For purposes of analyzing potential impacts to these resources, the threshold of change for the intensity of an impact is defined as follows:

- Negligible:** Impact is at the lowest levels of detection with neither adverse nor beneficial consequences.
- Minor:** Alteration of a character-defining feature(s) would not diminish the overall integrity of the resource.
- Moderate:** Alteration of a character-defining feature(s) would diminish the overall integrity of the resource.
- Major:** Loss of a character-defining feature(s) would diminish the overall integrity of the resource.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, there would be no alterations to the existing trail system as part of a comprehensive plan. The lack of any new trail construction would mean that there is no anticipated change to cultural landscapes associated with this alternative. The circulation systems, existing vegetation and designed landscape features, viewsheds, buildings, structures, and objects that contribute to these cultural landscapes would not be physically impacted. Opportunities for a greater understanding and appreciation of the contributions, challenges, and lives of Roosevelt and Vanderbilt family members would remain at their current levels.

Home of Franklin D. Roosevelt National Historic Site

As described in chapter 3, the western portion of this site would continue to offer three main trails: the Cove Trail (0.6 miles), the Forest Trail (1.4 miles), and the Meadow Trail (0.4 miles). These trails would remain open only to pedestrian use with the exception of the site roads and the Roosevelt Farm Lane (discussed below). Visitors would continue to access the site either from Route 9 or by hiking in along the Hyde Park Trail from the north. The unauthorized trails along the Morgan Boundary Road and those heading south towards the Culinary Institute of America would remain unauthorized. The NPS would encourage neither access to nor egress from the site via these routes. The route used by FDR for physical therapy along Home Road between the FDR Home and Route 9 would remain available for visitor use, but the NPS would not provide any formal interpretation regarding its role in the life of FDR.

The Roosevelt Farm and Forest (between Routes 9 and 9G) offers the 1.8 mile Roosevelt Farm Lane, with gravel parking lots at both ends of the trail. This would continue to be the only trail at any of the three sites where bicycle use is allowed without having to share the lane with public vehicles for more than a few hundred feet. The NPS would continue to provide a kiosk with maps at the western parking lot. Additionally, the Hyde Park Explorer cell phone tour offers interpretation at nine stops along this trail. The majority of the trails do not pass through significant components of the cultural landscapes, except for the north section of Cove Trail which passes by the main cluster of buildings at the Home of FDR; a small portion of the Roosevelt Farm and Forest trail through a historic tree plantation; and sections of the Hyde Park

Trail that pass by the Vanderbilt mansion and gardens although other trail sections pass within sight of stone walls and historic tree plantations.

The NPS would continue to offer the three loop trails branching off of the Roosevelt Farm Lane: the Red Trail (0.7 miles), the Yellow Trail (0.7 miles), and the Blue Trail (0.2 miles). The NPS would continue to post signs emphasizing that these three trails are open to pedestrian use only (not mountain bikes) and would continue to discourage use of the 5.1 miles of unauthorized trails throughout the Roosevelt Farm Forest.

Eleanor Roosevelt National Historic Site

The NPS would continue to maintain the two existing pedestrian trails at Eleanor Roosevelt NHS would continue to be available: the Eleanor's Walk loop (0.8 miles) and the Top Cottage Trail (1 mile). Interpretation along these trails would continue to be limited to the Hyde Park Explorer cell phone tour, which offers interpretation at seven stops along Eleanor's Walk and eight stops along the Top Cottage Trail. These trails branch off the road that travels from Route 9G, across from the Roosevelt Farm Lane to Roosevelt Road, which is north of the site. This 0.9 mile segment of road would continue to be open to pedestrians, bicycles, and vehicles (although public vehicle use would continue to be limited to the section between Route 9G and the loop at the Top Cottage/Eleanor's Walk trailhead).

Vanderbilt Mansion National Historic Site

Vanderbilt Mansion NHS would continue to be dominated by vehicular use. Due to the layout of the property at this site several issues would continue to make non-motorized touring of the site potentially difficult. Visitors would continue to enter the site via a paved roadway at the southern end with pedestrians, bicyclists and motorists sharing a narrow roadway. Bicycle use at this site would continue to be limited to the existing roadways.

Pedestrian access throughout this site would continue along the roads but would also continue to be supplemented by a variety of facilities including garden paths and the Vanderbilt Service Road. The service road is a relatively flat and wide dirt and gravel road paralleling the railroad tracks along the Hudson River with only modest grades.

At the northern end of the Vanderbilt Mansion NHS, Bard Rock is the northern terminus of the Hyde Park Trail and a popular spot for picnicking. Visitors can hike or bike down from the rest of the site along the road. It would also occasionally continue to serve as a boat landing for small watercraft such as kayaks or canoes but would continue to offer no additional facilities for boaters beyond a parking area and some benches.

Overall

The no-action alternative would have a long-term, negligible, adverse impact on cultural resources because impacts would be at the lowest levels of detection with neither adverse nor beneficial consequences.

Cumulative Impacts

No cumulative impacts have been identified for cultural landscapes.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, there would be a number of changes in the existing trail system as part of a comprehensive master plan. The existing trail system would be supplemented with 4.7 miles of authorized trails, which would provide additional opportunities for loop circulation (instead of out-and-back hikes). The addition of authorized mountain bike trails and the widening of some existing trails to become multi-use trails would expand opportunities for bicycle use.

These improvements would result in changes in circulation and would require some ground disturbance and potentially removal of some vegetation, but would not materially change the appearance of these existing trails within the cultural landscapes. Improved visitor access through and increased interpretation of the sites would improve visitor understanding of the cultural landscape.

Home of Franklin D. Roosevelt National Historic Site

The western portion of this site would continue to offer three main trails: the Cove Trail (0.6 miles), the Forest Trail (1.4 miles), and the Meadow Trail (0.4 miles), but a new 0.5 mile connection between the Ice Pond and Fish Pond along with a new 0.8 mile connection along the Morgan Boundary Road from the Forest Trail to Route 9 would create two new trail loops. These two new connections would be 10-foot wide trails. The 0.8 mile Morgan Boundary Road connection would link with the remaining portion of the Forest Trail along the northern border of the site, which would also be widened. These two links would be designated as a multi-use segment that could provide bicyclists with access to the Hyde Park Trail segment to connect Route 9 and the Home of FDR NHS to River Road.

The new trail between the Ice Pond and the Fish Pond would connect to the Cove Trail near the western end of the Meadow Trail would be designated as pedestrian only and would offer additional interpretation on how the ice pond was used to store ice that was cut and transported to the ice house near the Rose Garden. Visitors travelling to the end of the Cove Trail would have a chance to experience improved interpretation of the creation of the freshwater tidal marsh during the railroad construction in the 1850s. The NPS would also allow pedestrians to access a new trail (created along the alignment of an existing unauthorized trail) that would connect the Home of FDR NHS to the area surrounding the Culinary Institute of America, south of the site.

An additional pedestrian-only trail at this site is the 0.3 mile Home Road between the FDR Home and Route 9. This trail also would be subject to additional interpretation, most likely in the form of additional signs to inform visitors of how this route was used historically by FDR following his diagnosis with polio. This route could be made accessible. To further develop an accessible route, and pending the results of the UTAP, the NPS would investigate the potential to

use existing access drives and sidewalks to connect the driveway to the accessible parking at the Wallace Center.

The main trailhead for the Cove, Forest, and Meadow trails (and the associated new connections) would be located at the Wallace Center, which serves as the main visitor contact station, although the Cove Trail actually leaves the site roads between the parking lot and the rose garden and gravesite. This trailhead would continue to provide parking (including bus and bicycle parking), restrooms, benches, and a water fountain, and under the proposed plan, the NPS would supplement these facilities with a kiosk with maps and directional signs. Additional interpretation regarding the historic uses of the site (such as those mentioned above) could be included on the new kiosk or on new boards located along the trails.

The 1.8 mile Roosevelt Farm and Forest Trail (between Routes 9 and 9G) would continue to be open to pedestrians and bicyclists. The NPS would continue to offer a parking lot and bicycle rack at both ends (east and west) of the trail. At the western end, the existing kiosk with maps and parking lot would continue to serve visitors until the construction of the Hyde Park Drive-In improvements (expected this year, see cumulative impacts description). At the eastern terminus, the NPS would continue to offer a gravel parking lot and bicycle rack and would supplement these trailhead amenities with a kiosk with maps, directional signs, and benches. Interpretation of the site would continue to be available from the Hyde Park Explorer cell phone tour at nine stops along this trail and would be supplemented under this alternative by additional interpretation at the Maritje Kill Bridge and the tenant farm.

A proposed new pedestrian trail would run between the fish pond and the ice pond at the Home of FDR, west of the house, and extend this trail along the northern Morgan Boundary Road, currently not open to visitors, both of which would require the removal of some trees and grading. A portion of the trail between the Fish and Ice Ponds is within the remnant of one of the historic tree plantations, which have been unmanaged since 1946. As long as trees removed for the path are volunteer species, and not original specimens, selective thinning would be in accord with the Cultural Landscape Treatment Plan (NPS 2009) and would not have a negative impact on the cultural landscape.

Use of a currently unauthorized trail for a new authorized trail would connect the Home of FDR via the existing Meadow Trail to the Culinary Institute of America. Although not part of the historic circulation system, these trails would provide additional opportunities to observe the cultural landscape and enhance connectivity without impacting any existing features that currently contribute to the cultural landscape. Additionally, the new trails would not adversely affect the cultural landscape due to the area's heavily wooded character east and south of the house, which would obscure views of the new trails, and the presence of a number of pedestrian ways in the area already.

The NPS would continue to offer the three loop trails branching off of the Roosevelt Farm Lane: the Red Trail (0.7 miles), the Yellow Trail (0.7 miles), and the Blue Trail (0.2 miles). In addition, these trails would be opened to mountain bike use, and 2.8 miles of new trails would be designated for pedestrian and mountain bike use (single track trails and rough terrain would make these trails unsuitable for road bikes). Of these 2.8 miles of new trails, 2.3 miles would

consist of existing unauthorized trails that NPS would adopt as authorized trails. A few new connections would be made to connect the unauthorized existing trails within the bounds of NPS jurisdiction; these new trails would total 0.5 miles. The remaining unauthorized trails would be physically blocked to further discourage continued unsanctioned use. These newly authorized loops would not be highly visible from the Roosevelt Farm Trail east of Route 9. Therefore, the aforementioned actions would not materially affect the cultural landscape's historic character or historic trail circulation pattern.

Eleanor Roosevelt National Historic Site

Under alternative B, the NPS would construct a new quarter-mile pedestrian loop trail from Carlyle Road through the Secret Woods. The area is said to be where Eleanor Roosevelt spent time reading with her grandchildren, although there is little specificity about the actual location where these events took place. The construction of the pedestrian loop trail would require selective thinning of trees, already called out for the various historic tree plantations (GMP 2009) and grading and soil disturbance for the 5-foot wide trail, but the new trail's location in a remote corner of the site, close to more recent residential subdivisions on Roosevelt Road and the Central Hudson transmission corridor due south would result in a negligible impact on the cultural landscape. This trail would be designed to be universally accessible. The two existing pedestrian trails at Eleanor Roosevelt NHS would continue to be available to pedestrians (but closed to bicyclists): the Eleanor's Walk loop (0.8 miles) and the Top Cottage Trail (1 mile). The NPS would provide additional interpretation of the historic tulip tree plantation established by FDR in 1932 along Eleanor's Walk. The 0.9 mile road that travels from Route 9G, across from the Roosevelt Farm Lane to Roosevelt Road, which is north of the site would remain open to pedestrians, bicycles, and vehicles.

Vanderbilt Mansion National Historic Site

Vanderbilt Mansion NHS would continue to be dominated by vehicular use. Vehicular circulation patterns at this site would not change; however, the designation of a multi-use loop overlaying the existing pedestrian loop would offer additional opportunities for bicyclists to experience this site separately from motor vehicles. Vehicles would continue to enter the site via a paved roadway at the southern end of the site, sharing the narrow roadway with pedestrians and bicyclists. Under this alternative, bicyclists would have the additional option of touring the western portion of this site along the 1.1 mile Service Road Trail, as well. Existing roads and trails at this site offer the potential to establish an accessible route between the mansion and the formal gardens, although an assessment of existing conditions, including grade changes, would be needed. It should be noted that the gardens include tiers and stairs.

The NPS would add additional interpretation of the formal gardens, which can be accessed via the Garden Trail, south of the Vanderbilt Mansion. Additional interpretation of Bard Rock's historic use as the Vanderbilt boat house site and a Colonial era landing site would take place, as well.

Overall

Other improvements in the trails master plan include additional interpretive and wayfinding signs, benches, and bicycle parking racks at all six of the trailheads. Additional interpretation at several new locations would greatly assist in visitors' understanding and appreciation of the cultural landscapes and the lives of the Roosevelt and Vanderbilt families' associated with these landscapes. The addition of a small number of new trails and the expansion of existing trails to different modes of transportation would not affect the cultural landscapes' contributing features and would allow, coupled with increased interpretive efforts, a greater awareness and respect for the importance of these landscapes.

As described above, alternative B would result in a long-term, beneficial impact to cultural landscapes because the landscape itself would not be impacted by the new and/or widened trails or any change in use patterns; instead, additional access to the sites' historic features and interpretation of these features would enhance visitor understanding of the cultural landscape.

Cumulative Impacts

No cumulative impacts have been identified for cultural landscapes.

Alternative A: No-action

Overall, alternative A would have a long-term, negligible, adverse impact on cultural resources because impacts would be at the lowest levels of detection with neither adverse nor beneficial consequences. No cumulative impacts have been identified for cultural landscapes.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, alternative B would result in a long-term, beneficial impact to cultural landscapes because the landscape itself would not be impacted by the new and/or widened trails or any change in use patterns; instead, additional access to the sites' historic features and interpretation of these features would enhance visitor understanding of the cultural landscape. No cumulative impacts have been identified for cultural landscapes.

OPERATIONS AND INFRASTRUCTURE

METHODOLOGY

Impact analyses are based on the current description of operations and infrastructure presented in this document. As noted in chapter 1, the topic of operations and infrastructure addresses the effectiveness of the infrastructure and the ability to maintain the infrastructure used in the operation of the sites in order to adequately protect and preserve vital resources and provide for an effective and safe visitor experience. Operations and infrastructure also include a discussion of appropriate staff to maintain the sites. The thresholds of change for the intensity of this impact are defined as follows:

- Negligible:** Operations and infrastructure would not be affected, or the impacts would be at low levels of detection and would not have a noticeable impact on operations and infrastructure.
- Minor:** The impact would be detectable but would be of a magnitude that would not have a noticeable impact on operations and infrastructure.
- Moderate:** The impacts would be readily apparent and would result in a substantial change in operations and infrastructure in a manner noticeable to staff and the public.
- Major:** The impacts would be readily apparent, would result in a substantial change in operations and infrastructure in a manner noticeable to staff and the public, and be markedly different from existing operations and infrastructure.

IMPACTS OF ALTERNATIVE A: NO-ACTION

Impacts

Under the no-action alternative, no improvements would be made to and no new trails would be added to the existing trail infrastructure as part of a comprehensive plan. Maintenance of the existing infrastructure would take place as time and funding allow. No change in current staffing levels (as described in chapter 3) would be anticipated. The managers of the sites would continue to work cooperatively with local and regional agencies and organizations to maintain and improve the Hyde Park Trail Network. The NPS would also continue to take advantage of volunteers to assist with interpretation, maintenance, and resource management.

Home of Franklin Roosevelt National Historic Site

The Home of FDR NHS would continue to feature approximately 2.7 miles of trails west of Route 9. These trails would continue to vary between 8 and 14 feet wide (although most are on the smaller side), would continue to have surfaces of soil and stone, and would continue to be open only to foot travel. There would continue to be some minor erosion primarily along the Cove Trail between where paving ends and the Meadow Trail branches off.

On the eastern side of Route 9, the Roosevelt Farm and Forest would continue to feature the 1.8 mile Roosevelt Farm Lane and 1.6 miles of other authorized trails. The Roosevelt Farm Lane is relatively wide and predominately paved with gravel. It is the only trail on which bicycle use is allowed. Although bicycle use is currently prohibited on the rough, narrow single track trails branching off the Roosevelt Farm Lane, unauthorized bicycle use is known to take place on the authorized trails and the network of unauthorized trails in this area. The NPS would continue existing efforts to enforce closure of these trails.

A crosswalk would continue to serve pedestrians and bicyclists wishing to cross Route 9 between the western portion of Home of FDR NHS and the Roosevelt Farm and Forest, and another crosswalk across Route 9G would continue to serve pedestrians and bicyclists travelling between the Roosevelt Farm and Forest and the Eleanor Roosevelt NHS.

Eleanor Roosevelt National Historic Site

The trail network at this site would continue to be approximately 2.4 miles. This includes the paved roadway where the Hyde Park Trail enters this site from the Roosevelt Farm Lane across Route 9G. The Hyde Park Trail travels along the main entrance road for 0.14 miles and then leaves the road to loop around a pond and meet the main parking lot 0.3 miles later. The link from the parking lot to the main trailhead (0.14 miles) varies between gravel, asphalt, and dirt road, usually 12 feet wide. From the trailhead, both the Top Cottage Trail (1.0 miles) and Eleanor's Walk (0.8 miles) would continue to be approximately 5 to 6 feet wide and made up of packed dirt with some exposed stone. The paved entrance road would continue to travel 0.9 miles through the site from Route 9G to Roosevelt Road to provide vehicular access through the site (although it is closed to public vehicle use along the portion known as Carlyle Road, past the Top Cottage/Eleanor's Walk trailhead).

Vanderbilt Mansion National Historic Site

The trail system at Vanderbilt Mansion NHS would continue to include a total of approximately 2.8 miles of scenic drives and paths. This comprises the 1.1 mile Service Road Trail and 0.4 mile Garden Trail, which are open to pedestrian use only, as well as the paved roadway providing access to the Vanderbilt Mansion driveway loop, the parking lot, and Bard Rock. The conditions along this trail system would continue to vary considerably, even along the segments of the Hyde Park Trail that pass through the site. Most of the pedestrian trails at this site would continue to be well manicured but narrow (approximately 4 feet). Water would continue to pool in areas where gravel has been washed away. The Service Road Trail would continue to run along a relatively steep slope, resulting in exposed roots in some areas and the need for trail stabilization in at least one area.

Overall

As described above, alternative A would have long-term, minor, adverse impacts on operations and infrastructure because the ongoing issues associated with unauthorized use would continue to be a cause a noticeable effort by NPS staff related to enforcement and management.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on operations and infrastructure within the study area. These actions include the Hyde Park Drive-In improvements and water access at Crum Elbow Point. The Hyde Park Drive-In improvements would add a new parking lot, additional trailhead amenities, and a new trail. The addition of water access at Crum Elbow Point would provide infrastructure by which visitors could gain access to the Hudson River and boaters could also gain access to the sites. All four of these actions would involve additional development of infrastructure that would further enhance the sites' trail system. These past, present, and reasonably foreseeable future actions would have the potential for long-term, beneficial impacts. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible, adverse impacts of alternative A, would result in long-term, beneficial cumulative impacts on operations and infrastructure within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

IMPACTS OF ALTERNATIVE B: PROPOSED TRAILS MASTER PLAN (NPS PREFERRED)

Impacts

Under alternative B, the NPS would implement the proposed Trails Master Plan. A total of 4.7 miles of authorized trails would be added to the trail system.. A new multi-use trail network would connect all three sites with trails of standard widths and would be open to bicycle use., It is expected that an additional two FTE within the Maintenance Division would be required to assist with initial clearing of vegetation and minor grading to create the trails and to assist with their continued maintenance.

The increase in authorized trails would increase demand on the NPS Law Enforcement staff to meet visitors' reasonable expectations of assistance, which may not be met unless more rangers are available to patrol, respond, and protect the resources of the sites. Additionally, the NPS would coordinate with EMS providers to ensure that they are familiar with possible access routes along the trail system when developing their emergency response plans.

Natural Resource and Interpretive staff would be responsible for managing and maintaining the expanded and improved trail system at existing staff levels. The managers of the sites would continue to work cooperatively with local and regional agencies and organizations to maintain and improve the Hyde Park Trail Network. In order to reduce the increased burden of management and maintenance on the enhanced trail system within the sites, the NPS would continue to take advantage of volunteers to assist with interpretation, maintenance, and resource management. The use of volunteers may become more effective through implementation of the trail design standards described in appendix B.

Home of Franklin Roosevelt National Historic Site

Under alternative B, a total of 1.3 miles of new trails would be constructed at the Home of FDR HNS in addition to the existing 6.4 miles of trails. Most of this length would comprise the 0.5 mile connection between the Ice Pond and the Fish Pond, the 0.8 mile new connection along the Morgan Boundary Road from the Forest Trail and connecting to Route 9, and the 0.5 mile trail from the Meadow Trail leading south towards the Culinary Institute of America. All three of these trails would be 10-foot wide trails, and the connection along the Morgan Boundary Road would be designated as a multi-use trail.

Otherwise, there would be little change to the existing 2.7 miles of trails west of Route 9. The spans of trails that would link the new trails to existing trails may be subject to minimal changes such as vegetation removal to ensure that these segments (the northern Forest Trail, and short portions of the Cove and Meadow Trails) are approximately 10 feet wide. The trail surfaces would continue to be soil and stone. The multi-use connection along the Morgan Boundary Road and part of the Forest Trail would also be opened to bicycle use. There may continue to be some minor erosion primarily along the Cove Trail between where paving ends and the Meadow Trail branches off until the trail maintenance recommendations in appendix B can be implemented.

On the eastern side of Route 9, the Roosevelt Farm and Forest would continue to feature the 1.8 mile Roosevelt Farm Lane and 1.6 miles of existing authorized trails (the Red, Yellow, and Blue Trails). The Roosevelt Farm Lane would continue to be relatively wide and predominately paved with gravel. It is the only trail on which bicycle use is seasonally allowed.

The existing Red, Yellow, and Blue Trails would continue to be rough, single track trails, branching off the Roosevelt Farm Lane. Under alternative B, these existing trails would be opened to mountain bike use, and several new mountain bike trail loops (which would also be open to pedestrian use) would be designated in the Roosevelt Farm and Forest. The NPS would create new trail loops fully within NPS jurisdiction by authorizing 2.3 miles of existing unauthorized trails and by constructing 0.5 miles of new trails to create loops. These trails would be single track trails, with widths of only a foot or two. Conversely, approximately 2.8 miles of existing unauthorized trails would continue to be closed. The NPS would physically block unauthorized trails using brush or other natural materials to prevent continued use, which would reduce the effort required by NPS staff to enforce trail closures. Additionally, by providing authorized trails to meet the existing desire for mountain bike trails, the NPS would decrease the likelihood that unauthorized use of the remaining trails would take place. These trails would be open seasonally from March to November; however, these trails may continue to be closed due to specific user groups due to safety hazards during the winter months.

Eleanor Roosevelt National Historic Site

The trail network at this site would remain mostly unchanged, although additional trailhead amenities such as kiosks with trail maps and bicycle racks would be added near the parking lot and at Top Cottage. The trail system would continue to comprise 0.9 miles of paved roadway and 1.8 mile of trails along Top Cottage Trail (1.0 miles) and Eleanor's Walk (0.8 miles). Top Cottage Trail and Eleanor's Walk would continue to be approximately 5 to 6 feet wide and made up of packed dirt with some exposed stone. The Hyde Park Trail would continue to enter this site from the Roosevelt Farm Lane across Route 9G, travel along the main entrance road for 0.14 miles, loop around a pond and meet the main parking lot 0.3 miles later, where it shares a trailhead with the Top Cottage Trail. Under alternative B, the NPS would construct a new quarter-mile pedestrian loop trail off Carlyle Road to provide access to the Secret Woods. This trail would be 5-feet wide and may use a timber-pile boardwalk structure to avoid impacts in wetlands and a stream. Additionally, throughout the site there may be some general improvements of trail maintenance through improved coordination with volunteers to implement trail maintenance guidelines as described in appendix B.

Vanderbilt Mansion National Historic Site

The trail system at Vanderbilt Mansion NHS would continue to include a total of approximately 2.8 miles of scenic drives and paths. The trail system at Vanderbilt Mansion NHS would continue to include a total of approximately 2.8 miles of scenic drives and paths. This comprises the 1.1 mile Service Road Trail and 0.4 mile Garden Trail, which are open to pedestrian use only, as well as the paved roadway providing access to the Vanderbilt Mansion driveway loop, the parking lot, and Bard Rock. Under alternative B, however, the 1.1 mile Service Road Trail would be widened to accommodate the multi-use trail designation, which would allow bicycles to share this path with pedestrians. Much of this trail runs along a steep slope and is stabilized in

a few spots that are particularly prone to erosion. The trail would continue to be stabilized, where necessary, and further erosion would be prevented through implementation of the design standards outlined in appendix B. The establishment of this trail as a multi-use trail combined with designation of the existing roadways as part of that network would create a more contiguous and consistent way for both pedestrians and bicyclists to travel through this site. The 0.4 mile Garden Trail would continue to be a narrow pedestrian-only trail, although implementation of the design standards outlined in the Trails Master Plan has the potential to improve trail conditions at locations prone to issues such as water ponding where gravel has washed away. Secure boat storage would be installed at Bard Rock so that visitors accessing the site from the Hudson River would have an opportunity to store their boats at that landing and visit the rest of the site.

Overall

As described above, alternative B would have long-term, beneficial impacts on operations and infrastructure because of improved infrastructure throughout the sites as well as between the sites. Alternative B would also have long-term, minor, adverse impacts on operations and infrastructure because the enhanced trail system would require additional Maintenance and Law Enforcement staff to maintain the appropriate level of coverage for patrol, response, and protection of resources; This impact would be detectable but would be of a magnitude that would not have a noticeable impact on operations and infrastructure. The suggestions for additional coordination with volunteers to implement trail standards are described in appendix B. Additional coordination with volunteers would help outweigh the increase in interpretation and maintenance that would accompany the enhanced trail system.

Cumulative Impacts

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impact on operations and infrastructure within the study area. These actions include These actions include the Hyde Park Drive-In improvements and water access at Crum Elbow Point, as described under alternative A. Based on the information above, the impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, beneficial impacts of alternative B, would result in long-term, beneficial cumulative impacts on operations and infrastructure within the study area. Alternative B would contribute a noticeable beneficial increment to the cumulative impact.

CONCLUSION

Alternative A: No-action

Overall, alternative A would have long-term, minor, adverse impacts on operations and infrastructure because the ongoing issues associated with unauthorized use would continue to be a cause a noticeable effort by NPS staff related to enforcement and management. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, negligible, adverse impacts of alternative A, would result in long-term, beneficial cumulative impacts on operations and infrastructure within the study area. Alternative A would contribute an imperceptible adverse increment to the cumulative impact.

Alternative B: Proposed Trails Master Plan (NPS Preferred)

Overall, Alternative B would also have long-term, minor, adverse impacts on operations and infrastructure because the enhanced trail system would require additional Maintenance and Law Enforcement staff to maintain the appropriate level of coverage for patrol, response, and protection of resources; This impact would be detectable but would be of a magnitude that would not have a noticeable impact on operations and infrastructure. The suggestions for additional coordination with volunteers to implement trail standards are described in appendix B. Additional coordination with volunteers would help outweigh the increase in interpretation and maintenance that would accompany the enhanced trail system. The impacts of the past, present, and reasonably foreseeable future actions, when combined with the long-term, beneficial impacts of alternative B, would result in long-term, beneficial cumulative impacts on operations and infrastructure within the study area. Alternative B would contribute a noticeable beneficial increment to the cumulative impact.

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CONSULTATION AND COORDINATION

National Park Service Director's Order 12 requires the NPS to make "diligent" efforts to involve the interested and affected public in the NEPA process. This process, known as scoping, helps to determine the important issues and eliminate those that are not; allocate assignments among the interdisciplinary team members and/or other participating agencies; identify related projects and associated documents; identify other permits, surveys, consultations, etc. required by other agencies; and create a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. This chapter documents the scoping process for the proposed action, identifies future compliance needs and permits, and includes the list of preparers for the document.

THE SCOPING PROCESS

The scoping process is initiated at the beginning of a NEPA project to identify the range of issues, resources, and alternatives to address in the plan/EA. Typically both internal and public scoping is conducted to address these elements. State and federal agencies were also contacted in order to uncover any additional planning issues and to fulfill statutory requirements. The planning process for the proposed action was initiated during the internal, agency, and public scoping efforts, which began in the winter of 2010. This process introduced the purpose and need of the project and potential actions that could be included as part of the trails master plan. Discussions with interested agencies and individuals were initiated at this time.

INTERNAL SCOPING

An internal scoping meeting to discuss the project was held on November 2-4, 2010 at the Home of FDR NHS where members of the NPS staff met with their consultants to discuss existing issues and concerns to be addressed by the plan and discussed within the plan/EA. The planning team continued to meet and hold discussions throughout the course of the planning process.

PUBLIC SCOPING

NPS staff and trail planning experts met with stakeholder groups, as well as the general public, on April 18-20, 2011 at the Wallace Center (Home of FDR NHS) in Hyde Park, NY. Stakeholder groups met throughout the three days and included NPS staff, Dutchess County staff, an economic development/tourism group, a bike group (mountain biker and bicyclists), a

hikers/walkers/stewards group, and a partners group (representative of organizations that regularly partner with the NPS on programs and events at the sites). On April 19, 2011, the general public was invited to a separate open public meeting. A total of 25 members of the public attended the meeting. The meetings provided the opportunity for the NPS to present information about the proposed project and gather input and comments to help shape the purpose and need and alternatives for the plan/EA. In addition, a project information brochure (included in appendix A) was posted to PEPC for public feedback from April 18, 2011 to May 31, 2011. In PEPC, the NPS listed 12 topic questions to guide comments. The topics were as follows:

1. What do you think is most important about the Roosevelt-Vanderbilt trail system?
2. Where should connections to neighboring land be retained or established?
3. Are there locations where trail segments should be added or closed?
4. Should any existing or planned trails be opened to other uses, such as bicycles?
5. Do you see the potential for trail-use conflict here? If so, can you suggest ways to help limit such conflict?
6. Are there particular areas or resources that should be buffered from or closed off from the trail system? Are there segments of the trail system that present safety concerns?
7. Where could trail amenities, such as information, seating, or bike racks be most effectively located to maximize sustainable trail use?
8. Do you think the trail information and signs are adequate?
9. Do you see opportunities to coordinate the trail system with existing and planned public transit services?
10. Can you suggest ways that the trails could be designed and/or operated to minimize National Park Service maintenance requirements?
11. Can you suggest ways that community members or local groups could become more involved with the trail system? Are you aware of any groups that would be interested in using the trail system that currently do not?
12. Is there anything else you would like to tell the planning team?

During the comment period, seven pieces of correspondence were posted to PEPC from the public providing input on each of the topics above.

AGENCY, TRIBAL, AND ORGANIZATION CONSULTATION

FEDERAL AGENCIES

The NPS initiated coordination with relevant federal agencies during scoping and will continue to consult under the authorities listed below.

Endangered Species Act

Section 7 of the ESA requires federal agencies to consult with the USFWS regarding the potential for proposed actions to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The NPS sent a letter inviting the USFWS New York

Field Office was invited to the April 19, 2011 scoping meeting in a letter from the NPS dated April 5, 2011 (appendix A).

The NPS acquired a list of the federally listed endangered and threatened species and candidate species for Dutchess County from the USFWS New York Field Office's automated scoping system on August 14, 2011 (attached in Appendix A). This list was considered when drafting the rationale in chapter 1 for dismissing from further consideration the impact topic of special status species. This plan/EA will be provided to the USFWS during public review, and the NPS will continue to coordinate with the USFWS to ensure compliance with the ESA.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties. This plan/EA evaluates impacts on cultural resources according to NPS Management Policies 2006. Compliance with section 106 of the NHPA is being carried out separately but concurrently with the NEPA process. In order to comply with section 106, the NPS will provide the NY SHPO with a copy of the plan/EA, an Assessment of Effect on historic properties and a request for concurrence with the NPS determination, and any additional relevant information, as necessary. The execution of a decision document for the selected action will be dependent on completion of the section 106 process (either concurrence from the NY SHPO or execution of a memorandum of agreement, if deemed necessary).

Coastal Zone Management

Any federal actions with the Coastal Zone Management Area, as designated by the Coastal Zone Management Act (15 CFR 930), are required to be reviewed by the New York State Department of State Coastal Zone Program for consistency with the state's coastal policies. A representative of the Coastal Zone Management Program was invited to a government and agencies focus group on April 19, 2011 in a letter dated April 5, 2011 (appendix A).

The plan/EA provides a detailed analysis of impacts on the resources within the coastal zone. A Coastal Consistency Determination by the NPS will be provided to the NY State Department of State during public review.

GOVERNMENT-TO-GOVERNMENT CONSULTATION WITH AMERICAN INDIAN TRIBES

The American Indian tribes historically associated with this area of the Hudson Valley include the Stockbridge-Munsee Community of Wisconsin, the Delaware Tribe, and the Delaware Nation. There has been no communication with these tribes to date; however, government-to-government consultation will be initiated to discuss the proposed project and the potential for adverse impacts of the alternatives to places (i.e., archeological sites) that are of interest to the tribes, per Section 106 of the NHPA. Consultation will include measures taken to avoid and mitigate such impacts, as the project moves forward through implementation and construction of new trails. Tribal consultation will be initiated as soon as possible, and the NPS will provide

these tribes with a copy of this EA to solicit their review of the project and to discuss the anticipated impacts of the proposed action.

STATE AND LOCAL AGENCIES

As part of the scoping process, the NPS invited representatives from the following state and local agencies to participate in government and agencies focus group on April 19, 2011 in a letter dated April 5, 2011 (appendix A).

Stakeholders invited included representatives of the following agencies/organizations:

- Hyde Park Planning Board
- Hyde Park Town Board
- Hyde Park Recreation Commission
- Hyde Park Trail Committee
- Hyde Park Schools
- Dutchess County Legislators
- Poughkeepsie-Dutchess County Transportation Council
- Dutchess County Planning
- Dutchess Community College
- Route 9G Corridor Committee
- Hudson River Valley Greenway
- Hudson River Valley National Heritage Area
- State University of New York, College of Environmental Science & Forestry
- NYDEC
- NYDOT Bike/Ped Coordinator, Region 8
- NY State Department of State, Coastal Zone Management Program
- SHPO

The NPS will coordinate with local EMS providers to ensure that they have the most recent plans for emergency access within the sites. This will allow EMS providers to take into account possible evacuation routes when creating their emergency response plans.

ORGANIZATIONS AND INDIVIDUALS

During public scoping, a number of interested organizations and individuals were provided with the project information sheet included in appendix A via email. Specifically, the private stakeholder groups that were contacted include the following:

- Renegades Mountain Biking Club
- Fats in the Cats
- International Mountain Bicycling Association
- Bike Hudson Valley
- Bike New York
- Mid-Hudson Bike Club
- Ulster County Trails Advisory Committee

- Bard College Center for Lifelong Learning
- Sierra Club Atlantic Chapter, Mid-Hudson Valley Group
- Mid-Hudson Road Runners Club
- Adirondack Mountain Club, Mid-Hudson Chapter
- Winnakee Land Trust
- Waterment Bird Club
- Culinary Institute of America
- Marist College Track & Cross-Country
- Parks & Trails New York
- Appalachian Mountain Club, Mohawk-Hudson Chapter
- Beatrix Farrand Garden Association
- Hyde Park Lions Club
- Roosevelt-Vanderbilt Historic Association
- Scenic Hudson, Inc.
- Walkway over the Hudson
- Hyde Park Historic Society
- Hudson River Sloop Clearwater, Fall Kill Watershed Coordinator

LIST OF RELEVANT PERMITTING AND REGULATORY ISSUES

Several approvals and permits would be required prior to construction. In summary, permits and approvals required would include the following:

- Acquisition of a National Pollutant Discharge Elimination System permit, including a stormwater pollution prevention plan
- Consultation with USFWS to ensure compliance with section 7 of the Endangered Species Act (ESA)
- Consultation with the NY SHPO to ensure consistency with section 106 of the NHPA. This may include preparation of a MOA or similar agreement
- Consultation with the NY Department of State Coastal Zone Program to ensure concurrence with the NPS determination of consistency with relevant coastal management policies per the CZMA

LIST OF PREPARERS AND CONTRIBUTORS

This document was prepared by Vanasse Hangen Brustlin, Inc. (VHB) with input from Otak, staff at the Roosevelt-Vanderbilt national historic sites, and the NPS Northeast Regional Office.

Vanasse Hangen Brustlin, Inc.		
Tricia Wingard	NPS Project Manager	Guidance of NEPA process; document review
Tracy Hamm	Environmental Planner	Document preparation; natural resources review and analysis
Diane Ditzel	Environmental Planner	Document preparation; natural resources review and analysis
Chris DeWitt	Project Manager/Senior Environmental Planner	Alternative development; project management
Kathleen Ogden	Senior Landscape Architect	Alternatives development
Win Hagen	CADD/Graphics	Prepare plan/EA figures
Marty Beavers	GIS/Graphics	Conduct GIS analyses and prepare plan/EA figures
Otak, Inc.		
Mandi Roberts	Principal/Landscape Architect	Alternatives development, public involvement

CONTRIBUTORS AND REVIEWERS

Roosevelt-Vanderbilt National Historic Sites	
Sarah Olson	Superintendent
Carol Kohan	Deputy Superintendent
Henry Van Brookhoven	Facility Manager
Cathy Newhard	Chief Ranger
Janell Bonawitz	Park Ranger
Scott Rector	Chief of Interpretation
Karl Beard	Outdoor Recreation Planner
David Hayes	Integrated Resources Manager
NPS Regional Office	
Mary "Missy" Morrison	Environmental Protection Specialist

LIST OF RECIPIENTS

The plan/EA will be on formal public and agency review for 30 days and has been made available to a variety of interested individuals, agencies, and organizations, listed below. It also is available on the internet at < <http://parkplanning.nps.gov/rova>>, and hard copies are available at the Roosevelt-Vanderbilt National Historic Sites Headquarters, the Wallace Visitor Center at the Home of FDR NHS, the Vanderbilt Visitor Center, and the Hyde Park public library.

Agencies and organizations either provided with a hard copy of the EA or notified of its availability online include the following:

FEDERAL AGENCIES

- USFWS

AMERICAN INDIAN TRIBES

- Stockbridge-Munsee Community of Wisconsin
- Delaware Nation
- Delaware Tribe

STATE AGENCIES/ORGANIZATIONS

- NYDEC
- NYDOT Bike/Ped Coordinator, Region 8
- NY State Department of State, Coastal Zone Management Program
- SHPO

LOCAL GOVERNMENTS

- Hyde Park Planning Board
- Hyde Park Town Board
- Hyde Park Recreation Commission
- Hyde Park Trail Committee
- Hyde Park Schools
- Dutchess County Legislators
- Poughkeepsie-Dutchess County Transportation Council
- Dutchess County Department of Planning & Development
- Dutchess Community College
- Route 9G Corridor Committee
- Hudson River Valley Greenway
- Hudson River Valley National Heritage Area

BUSINESSES, NONPTOFITS/ORGANIZATIONS, AND UNIVERSITIES

- Renegades Mountain Biking Club
- Fats in the Cats
- International Mountain Bicycling Association
- Bike Hudson Valley
- Bike New York
- Mid-Hudson Bike Club
- Ulster County Trails Advisory Committee
- Bard College Center for Lifelong Learning
- Sierra Club Atlantic Chapter, Mid-Hudson Valley Group
- Mid-Hudson Road Runners Club
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- Appalachian Mountain Club, Mohawk-Hudson Chapter
- Beatrix Farrand Garden Association
- Hyde Park Lions Club
- Roosevelt-Vanderbilt Historic Association
- Scenic Hudson, Inc.
- Walkway over the Hudson
- Hyde Park Historic Society
- Hudson River Sloop Clearwater, Fall Kill Watershed Coordinator
- Culinary Institute of America
- State University of New York, College of Environmental Science & Forestry

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APPENDIX A: RELEVANT CORRESPONDENCE



United States Department of the Interior

FISH AND WILDLIFE SERVICE



New York Field Office
3817 Luker Road, Cortland, NY 13045
Phone: (607) 753-9334
Fax: (607) 753-9699

Long Island Field Office
3 Old Barto Rd., Brookhaven, NY 11719
Phone: (631) 776-1401
Fax: (631) 776-1405

Endangered Species Act List Request Response Cover Sheet

This cover sheet is provided in response to a search of our website* for information regarding the potential presence of species under jurisdiction of the U.S. Fish and Wildlife Service (Service) within a proposed project area.

Attached is a copy of the New York State County List of Threatened, Endangered, and Candidate Species for the appropriate county(ies). The database that we use to respond to list requests was developed primarily to assist Federal agencies that are consulting with us under Section 7(a)(2) of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Our lists include all Federally-listed, proposed, and candidate species known to occur, as well as those likely to occur, in specific counties.

The attached information is designed to assist project sponsors or applicants through the process of determining whether a Federally-listed, proposed, or candidate species and/or "critical habitat" may occur within their proposed project area and when it is appropriate to contact our offices for additional coordination or consultation. You may be aware that our offices have provided much of this information in the past in project-specific letters. However, due to increasing project review workloads and decreasing staff, we are now providing as much information as possible through our website. We encourage anyone requesting species list information to print out all materials used in any analyses of effects on listed, proposed, or candidate species.

The Service routinely updates this database as species are proposed, listed, and delisted, or as we obtain new biological information or specific presence/absence information for listed species. If project proponents coordinate with the Service to address proposed and candidate species in early stages of planning, this should not be a problem if these species are eventually listed. However, we recommend that both project proponents and reviewing agencies retrieve from our online database an *updated* list every 90 days to append to this document to ensure that listed species presence/absence information for the proposed project is *current*.

Reminder: Section 9 of the ESA prohibits unauthorized taking** of listed species and applies to Federal and non-Federal activities. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take**" any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take**," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the Service, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species.

For instance, work in certain waters of the United States, including wetlands and streams, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

For additional information on fish and wildlife resources or State-listed species, we suggest contacting the appropriate New York State Department of Environmental Conservation regional office(s) and the New York Natural Heritage Program Information Services.*

Since wetlands, ponds, streams, or open or sheltered coastal waters may be present in the project area, it may be helpful to utilize the National Wetlands Inventory (NWI) maps as an initial screening tool. However, they may or may not be available for the project area. Please note that while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Online information on the NWI program and digital data can be downloaded from Wetlands Mapper, http://wetlands.fws.gov/mapper_tool.htm.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. After reviewing our website and following the steps outlined, we encourage both project proponents and reviewing agencies to contact our office to determine whether an accurate determination of species impacts has been made. If there are any questions about our county lists or agency or project proponent responsibilities under the ESA, please contact the New York or Long Island Field Office Endangered Species Program at the numbers listed above.

Attachment (county list of species)

*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

** Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to *take* (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

Dutchess County

Page 1 of 1



Dutchess County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Atlantic Sturgeon ²	<i>Acipenser oxyrinchus oxyrinchus</i>	P
Bald eagle ¹	<i>Haliaeetus leucocephalus</i>	D
Bog turtle	<i>Clemmys [=Glyptemys] muhlenbergii</i>	T
Dwarf wedgemussel (Housatonic River drainage)	<i>Alasmidonta heterodon</i>	E
Indiana bat (S)	<i>Myotis sodalis</i>	E
New England cottontail	<i>Sylvilagus transitionalis</i>	C
Shortnose sturgeon ²	<i>Acipenser brevirostrum</i>	E

Status Codes: E=Endangered, T=Threatened, P=Proposed, C=Candidate, D=Delisted.

W=Winter S=Summer

¹ The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

² Primarily occurs in Hudson River. Principal responsibility for this species is vested with the National Oceanic and Atmospheric Administration/Fisheries.

Information current as of: 8/14/2011

[Print Species List](#)

<http://www.fws.gov/northeast/nyfo/es/CountyLists/DutchessDec2006.htm>

8/14/2011



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Roosevelt-Vanderbilt National Historical Sites
4097 Albany Post Road
Hyde Park, New York 12538
Home of Franklin D. Roosevelt N.H.S.
Vanderbilt Mansion N.H.S.
Eleanor Roosevelt N.H.S.

L7617 (ROVA)

July 13, 2011

Tara Salerno
NYS Department of Environmental Conservation
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

Re: Trails Master Plan, Roosevelt-Vanderbilt National Historic Sites

Dear Ms. Salerno:

The National Park Service is preparing a planning document for management and development of trails at Roosevelt-Vanderbilt National Historic Sites, Hyde Park, Dutchess County, New York. This letter initiates our informal consultation regarding potential endangered species impacts related to this project. It also serves as notification that we have begun the National Environmental Policy Act (NEPA) process and are proposing to have an Environmental Assessment (EA) available for public and regulatory review later in 2011. We are seeking your input on any known occurrences of threatened or endangered species in the project area.

Attached is a portion of the USGS topographic map for Hyde Park, NY with the project impact areas outlined in red.

The current land use of the project area is as a National Historic Site. The site is a mix of forest, historic tree plantation, landscaped grounds, structures, roads and parking areas.

Based on US Fish & Wildlife Service information, Dutchess County has the following Federal T&E Species:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
Atlantic Sturgeon ²	<i>Acipenser oxyrinchus oxyrinchus</i>	P
Bald eagle ¹	<i>Haliaeetus leucocephalus</i>	D
Bog turtle	<i>Clemmys [=Glyptemys] muhlenbergii</i>	T
Dwarf wedgemussel (Housatonic River drainage)	<i>Alasmidonta heterodon</i>	E
Indiana bat (S)	<i>Myotis sodalis</i>	E
New England cottontail	<i>Sylvilagus transitionalis</i>	C
Shortnose sturgeon ²	<i>Acipenser brevirostrum</i>	E

We would welcome your input regarding any species of concern that have been recorded in this area. Thank you.

Thank you for your assistance in this matter. If you need additional information or have any questions regarding this request, please contact me (845) 229-1521, by mail at the above address, or by e-mail at dave_hayes@nps.gov.

Sincerely,

David J. Hayes
Natural Resource Program Manager

Enclosures

L-7615(HOFR)

September 17, 2010

NYSDEC-DFWMR
NY Natural Heritage Program-Information Services
625 Broadway, 5th Floor
Albany, NY 12233-4757

RE: Roosevelt Farm Lane Visitor Access Improvements

Dear Sir or Madam:

The National Park Service proposes to construct visitor access improvements on a portion of the Home of Franklin D. Roosevelt National Historic Site. The purpose of this project is to improve visitor access to Roosevelt Farm Lane, a popular multiuse trail. Under the National Environmental Policy Act, we are preparing an Environmental Assessment to evaluate any impacts that would result from this project. as an operating drive-in theater with an adjacent forested area.

The project has the following components:

1. Realignment of entrance road.

The current entry road to the site would be moved south to align with the entrance to the Home of FDR National Historic Site directly across U.S. Route 9.

2. Realignment of existing internal circulation.

The current internal driveway would be moved to accommodate a new visitor parking area and a new connecting trail to Roosevelt Farm Lane. Pedestrian walkways would also be constructed to allow park visitors to safely reach the site from the Home of FDR. A multi-use walkway would also be constructed to provide north-south access to pedestrians.

3. Provide Additional Public Access

A 40-lot visitor parking area would be constructed in an area that is currently successional forest.

4. Removal of Existing Interim Parking for Roosevelt Farm Lane

The existing 6-car parking lot would be removed and restored to native grass meadow as part of this project. The historic Farm Lane would remain undisturbed.

5. Provide Pedestrian and Bicycle Access to Roosevelt Farm Lane

A new, approximately 1000-foot multipurpose 12-foot wide gravel trail would be constructed to connect this site with Roosevelt Farm Lane. There would be one wooden pedestrian bridge crossing over a seasonal stream and a 60-foot wooden boardwalk over a wetland.

6. Landscape Restoration

Infill tree planting would be established to provide a visual buffer between the site and an existing motel to the south. A native grass meadow would be restored along the western side of the project. Stone walls would be retained and enhanced.

Since this is an upland site, the presence of sturgeon, dwarf wedgemussel and shortnose sturgeon can be ruled out. Bald eagle is found along the Hudson River about 1 mile to the west and may pass over the site as transient individuals.

Sincerely,

David J. Hayes

Natural Resource Manager

enclosures

The letter provided on the next page was sent to representatives of the following federal, state, and local agencies:

- Hyde Park Planning Board
- Hyde Park Town Board
- New York Department of Environmental Conservation (NYDEC)
- New York State Historic Preservation Officer (SHPO)
- Dutchess County Legislators
- New York Department of Transportation (NYDOT) Bike/Ped Coordinator, Region 8
- Poughkeepsie-Dutchess County Transportation Council
- Dutchess County Planning
- U. S. Fish and Wildlife Service (USFWS), NY Field Office
- U. S. Environmental Protection Agency (EPA), Region 2
- New York State Department of State Coastal Zone Management Program

Sarah Olson, Superintendent
Roosevelt-Vanderbilt National Historic Sites
4097 Albany Post Road
Hyde Park, New York 12538

April 5, 2011

Dear Friend:

I am pleased to announce that the National Park Service is now undertaking a plan to guide development and use of the trail system at the Roosevelt-Vanderbilt National Historic Sites in Hyde Park, New York. The project will include the trails at the Home of Franklin D. Roosevelt National Historic Site, Eleanor Roosevelt National Historic Site (Val-Kill), and the Vanderbilt Mansion National Historic Site. The goal of the Trail Plan is to lay the groundwork for a comprehensive, well-designed, sustainable trail system which provides a variety of visitor experiences that support the parks' missions.

The project involves several stages. These include data collection and evaluation of existing conditions, public outreach, exploration of alternatives for the trail system, and the assessment of the environmental impacts of the options considered. To view a project information sheet, visit http://parkplanning.nps.gov/trail_master_plan and select the "Document List" tab.

We wish to invite broad public involvement in the development of the plan. As part of our public outreach we are holding a series of focus groups for targeted audiences. We would like to invite you to participate in a **Government & Agencies** focus group on **Tuesday, April 19 from 1:00 PM to 2:30 PM**. The session will be held at the Henry A. Wallace Center (4097 Albany Post Road, Hyde Park, NY 12538). Please RSVP to Dave Hayes by April 11 at dave_hayes@nps.gov.

If your schedule won't permit you to attend the focus group session, please try to join us for a general public meeting on Tuesday evening, April 19th at the Wallace Center from 6:00 to 8:00 p.m. You are also welcome to share your thoughts with us via the National Park Service planning website at:

http://parkplanning.nps.gov/trail_master_plan

We appreciate your consideration. Thank you for helping us to uphold and advance the enduring legacy of these special places.

Sincerely,

Sarah Olson
Superintendent

The following pages were provided to interested parties during public scoping as a project information brochure.

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APPENDIX B: DESIGN GUIDELINES

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DESIGN GUIDELINES

For the most part, the master plan includes proposals to connect and unify existing trail facilities, recommending relatively few new facilities; these guidelines are intended to apply when improvements are made to existing infrastructure, or when new infrastructure is proposed. Implementation of the improvements recommended herein will require detailed and project-specific planning, design, and application of design guidelines. This master plan therefore references applicable resources that should be consulted during the engineering design for individual improvement projects.

Given the variety of existing conditions within the overall trail network, along with the variety of types of proposed improvements (sidewalks, shared-use paths, recreational walkways, mountain bike trails, on road accommodations, etc.), it is impossible to establish a single set of design guidelines for the preferred alternative. In fact, even within individual categories (shared-use paths, for example), proposed conditions may vary on a project-by-project basis as implementation occurs over time. This section outlines the general types of criteria that may apply, while noting that specific projects or improvements may not be able to fully meet these guidelines. The resources listed below provide for variances under specific circumstances and with specific mitigating treatments.

Application of the criteria as part of a detailed design process for individual projects will result in improved ADA accessibility through a system of sidewalks, pedestrian paths, recreational hiking trails, and shared-use paths, as defined herein and in the referenced resources. These facilities would provide access to restrooms, visitor centers, trailheads, and primary interpretive destinations to help enhance the visitor experience of the sites. Based on existing conditions and resource sensitivity, many of the existing off-road trails throughout the sites would not fully meet ADA requirements, and would provide a more recreational experience.

The following references provide nationally accepted standards for the facilities recommended in the master plan:

- *American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design and Operation of Pedestrian Facilities*
- *AASHTO Guide for the Development of Bicycle Facilities*
- *The Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)*
- New York State Department of Transportation (NYSDOT) Highway Design Manual, especially Chapter 2, “Design Criteria”, Chapter 17, “Bicycle Facility Design”, and Chapter 18, “Pedestrian Facility Design”.
- International Mountain Biking Association (IMBA) *Trail Solutions: IMBA’s Guide to Building Sweet Singletrack*
- *Manual on Uniform Traffic Control Devices 2009 Edition with NYS Supplement 2011.*

SIDEWALKS, PEDESTRIAN PATHS, AND RECREATIONAL HIKING TRAILS

A sidewalk is a pedestrian-only path adjacent to a roadway. A pedestrian path is a facility that meets sidewalk criteria but is not adjacent to roadway. A recreational hiking trail is a pedestrian-only facility, but includes a lesser degree of ADA accommodation than a sidewalk or pedestrian path.

Sidewalks and pedestrian paths are a limited but important component of the overall trail system at Roosevelt-Vanderbilt NHS. In general, the Master Plan recommends consideration of new sidewalks where they do not currently exist along Route 9; this would occur outside the limits of the NHS property and will require consultation and coordination with local and state agencies. The proposed trail at Secret Woods represents a potential pedestrian path on NPS property. Pedestrian paths differ from sidewalks in that they are not immediately adjacent to a roadway and do not require a curb; otherwise the two facility types follow the same guidelines.

Most of the existing off-road trail system at Roosevelt-Vanderbilt NHS consists of pedestrian-only trails that generally do not meet ADA requirements for recreational hiking trails. Construction of new facilities and improvements to existing facilities should strive to provide ADA accessibility, but the referenced sources allow flexibility to address existing conditions and other constraints.

Users and Code of Conduct:

Sidewalks and pedestrian paths are intended for pedestrian use only; bicycles and motor vehicles are prohibited from using these facilities.

Criteria to Consider

Note: Sidewalks generally have a higher level of design criteria than recreational hiking trails.

Width: Walkway width refers to that section of the walkway that is free of obstructions or impediments and is actually accessible to pedestrian travel. In general, sidewalks and pedestrian paths should maintain a minimum width of 1.525m, exclusive of the curb.

Running Slope: The running slope of pedestrian facilities should not exceed 5%.

Cross Slope: Acceptable cross slopes on pedestrian facilities are governed by the need to maintain a relatively flat travel surface while also providing adequate drainage. In general, a 2% cross slope will address both these goals.

Walking Surface: Surfaces should be stable, firm, and slip resistant, providing a hard-surfaced, smooth, durable, and all-weather facility.

Placement within the Right-of-Way: In general, sidewalks should be separated from vehicular travel lanes by a minimum distance of 2.5m from back of curb. The referenced sources provide guidance on varying from this standard where this minimum distance is not feasible.

Pedestrian Facility Design Elements: These include related improvements such as lighting, benches, and signs. Their placement relative to the function and comfort of the facility needs to be considered along with the need to avoid obstruction of the pedestrian facility. The referenced sources provide specific guidance. It should be noted here that national standards exist regarding the lighting of pedestrian facilities; these should also be considered during the design process.

Pedestrian Crossings: The referenced sources provide guidance on design of pedestrian crossings for various street types, vehicular speeds, and intersection types.

SHARED-USE PATHS:

Shared-use paths are off-road facilities that can accommodate both pedestrians and bicyclists. Design of shared-use paths should incorporate ADA requirements for sidewalks and recreational hiking trails, in addition to considering the criteria discussed below.

Users and Code of Conduct

Currently, the off-road trail facilities at the sites are almost exclusively limited to pedestrian use (only Roosevelt Farm Lane is open to bicycle use). The Master Plan recommends opening certain sections of existing trails to bicycle use, as well as the development of several new shared-use path sections, to help complete linkages throughout the NHS. Much of the system would remain pedestrian only. Signage and wayfinding will be important to delineate permitted trail uses. In shared-use conditions, bicyclists should yield to pedestrians and remain cognizant that they are operating in a shared-use environment.

Criteria to Consider

Design Speed: The speed that a bicyclist travels depends on several factors, including the type and condition of the bicycle, the purpose of the trip, the condition and location of the bicycle path, the speed and direction of the wind, and the bicyclist's physical condition (AASHTO Guide, page 36). It is anticipated that the proposed shared-use paths would be used by a wide range of bicyclists, including experienced bicyclists who utilize on-road facilities and travel at higher speeds.

Specific design speeds should be chosen on individual projects as part of the engineering design and consultation process. Existing and proposed shared-use paths should be designed for speeds at least as high as the preferred speed of the faster bicyclists, but paths should not be designed to encourage speed. It is also recommended that trail design at intersecting roadways be configured to encourage a lower speed for bicyclists. Traffic control devices, such as warning signs and pavement markings, should be installed on the roadways approaching intersections to alert motorists to the presence of bicyclists, and to encourage lower speeds for motorists approaching the intersections.

Width: In addition to bicyclists, anticipated trail users include pedestrians such as walkers and joggers. It is also anticipated that maintenance vehicles will require access to the proposed trail. AASHTO recommends a minimum width of 10 feet for a proposed two-direction trail, whereas NYSDOT

recommends 4m (or just over 13') for a shared-use path. The guidelines also recommend a maximum cross slope of 2% to satisfy requirements of the Americans with Disabilities Act of 1990 (ADA).

Horizontal Alignment and Clearance: Horizontal curves are important for sight distance and navigating safely at design speeds. Clearances along curves (including vegetation and other obstructions) are also important for maintaining sight distances. The horizontal alignment of a shared-use path is described as a series of tangents connected to each other by circular curves. The minimum radius of curvature negotiable by a bicycle is a function of the superelevation (e), coefficient of friction, type of bicycle surface, and speed. Because the proposed trails would generally follow existing alignments, standard criteria may be difficult to achieve. Horizontal clearance addresses graded shoulder areas as well as clearance from walls, fences, and other lateral obstructions. Again, given existing conditions, standard minimum horizontal clearance may be difficult to achieve. Finally, the referenced sources address the need for bicycle railings at bridge approaches, bridges, and steep side slopes.

Vertical Alignment and Clearance: Vertical alignment addresses the running slope and vertical curves along the trail's length. Vertical alignment criteria are important for maintaining ADA accessibility, and also for visibility over hills. Because the vast majority of the trail system will rely on existing trails and roads, the vertical alignment is already set, and will not always meet standard minimum criteria. For new trail segments, vertical alignment should be considered as part of the design process, consulting guidance in the referenced sources. Vertical clearance addresses overhanging obstacles within this trail alignment.

Sight Distances: Design of potential trail alteration or construction should consider three types of sight distances – stopping sight distance, intersection sight distance, and decision sight distance.

Stopping Sight Distance: The stopping sight distance (SSD) is the distance required to bring a vehicle (motorized or bicycle) to a full, controlled stop. The SSD is influenced by a variety of factors, including surface conditions and trail grade.

Intersection Sight Distance: The amount of sight distance necessary for trail users to cross the intersection from a full stop depends on several factors, including the time needed to cross the roadway, the distance the approaching motor vehicle will travel in that time, and vehicle speeds.

Decision Sight Distances: For motorists, decision sight distance (DSD) is the distance required for a driver to detect and recognize a roadway hazard, adjust the vehicle's path and speed accordingly, and stop safely.

DSD differs in concept for bicyclists. For bicycles, proper DSD provides clear sight lines based on the distances approaching motor vehicles will travel in the time a bicyclist takes to fully clear the trail/roadway intersection from a "stop-go" decision point. The decision point is the point the bicyclist makes the decision to stop or proceed without stopping irrespective of the presence of a stop sign or signal. The bicycle DSD acknowledges bicyclists' desire to maintain momentum.

Trail Surface Material: Existing trail surface materials vary considerably throughout the NHS. Trail alterations or construction should consider the need for stabilized earth, ground limestone, or other similar firm all-weather surface.

Drainage: A minimum cross slope of 2% is generally recommended to enable adequate drainage. Existing conditions may limit the ability to achieve this standard within the trail system.

Controlling Vehicular Access: Vehicle access control should be installed at roadway crossings and trailheads to restrict unauthorized motor vehicle access to the proposed trail.

MOUNTAIN BIKE AND HIKING TRAILS

Currently, bicycling within the NHS is allowed only on park roads and along Roosevelt Farm Lane. The Master Plan recommends opening to combined pedestrian and mountain bike use some of the existing unauthorized trails at Roosevelt Farm and Forest, along with construction of several small new trail linkages.

Users and Code of Conduct

The proposed mountain bike trail system would be shared with pedestrians. However, the existing trail conditions and intended recreational use mean that these trails will not meet ADA nor bicycle requirements for shared-use paths. The criteria discussion below therefore references IMBA single track mountain bike criteria.

The Master Plan recommends signage and wayfinding to delineate these areas. Cyclists should yield to pedestrians and remain cognizant of the fact that they are operating in a shared-use environment.

Criteria to Consider

The International Mountain Biking Association (IMBA) Trail Solutions: IMBA's Guide to Building Sweet Singletrack addresses essential elements for design and construction of sustainable mountain bike trails. Specifically, the document addresses issues such as slope, drainage, trail width, trail surface, trail grade, and obstacles and technical features. The existing single track trails at RFF may not meet all applicable criteria; trail alterations and new construction should consider the IMBA guidelines as part of a detailed planning and design process and in consultation with appropriate stakeholders.

ON ROAD ACCOMMODATIONS

The existing trail system within the NHS includes use of park access roads by bicycles, pedestrians, and vehicles. The Master Plan recommends signage and wayfinding enhancements to improve these low-volume, low-speed roadways. In addition, the Master Plan suggests working with state and local agencies to consider bicycle accommodations on roadways outside of the NHS. In these cases, the referenced sources should be consulted in the context of:

- Motor vehicle traffic volume
- Average motor vehicle operating speed
- Traffic mix of automobiles, trucks, buses and/or recreational vehicles
- On-street parking
- Sight distance

Again, as part of a detailed planning and design process, the following types of on-road accommodation may be considered:

- Shared Lanes (<14' wide)
- Shared Lanes (>14' wide)
- Bike Shoulders
- Bicycle lanes

APPENDIX C: FINANCIAL CONSIDERATIONS

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FINANCIAL CONSIDERATIONS

CLASS C CONSTRUCTION COST ESTIMATES

- 5' Sidewalks, bituminous, both sides of street – \$120/linear foot
- 5' Sidewalks, concrete, both sides of street – \$140/linear foot
- Marked Crossing – \$1,500
- Signalized Crossing – \$70,000 (assumes installation of signalized intersection with mast arms, signal heads, pedestrian signals, pavement markings, and appropriate pedestrian upgrades such as curb cuts and ADA curb ramps)
- Shared-use path construction – unit cost per mile along various alignments
 - Adjacent to roadway with utility relocation – \$765,600
 - Along new alignment – \$871,200
 - Existing corridor (minor grading/clearing) – \$792,000
- On-roadway bicycle improvements (unit cost per mile, both sides of road)
 - Signing and striping – \$10,560
 - Widening to add shoulders/bike lanes – \$501,600
- Mountain Bike Trail – unit cost per mile - \$26,400
- Bike/pedestrian bridge (over roadway), unit costs:
 - Survey, design, geo-tech, permitting, etc. – \$240,000
 - Total lump sum (LS) construction – \$1,200,000
- Secure bicycle parking (unit cost, installed) – \$1,500
- Wayfinding signage – \$18,000/linear mile (including materials and installation for directional, distance, route, and destination signage)
- Information Kiosks – Including a primary visitor center kiosk and smaller trailhead kiosks. It also depends upon the type of resources available such as electronic media or more basic features. \$5,000-10,000/kiosk.

- Total cost for Preferred Alternative:
 - Sidewalk within NHS - \$80,000
 - Sidewalk outside NHS – \$440,000
 - Marked crossing - \$1,500
 - Signalized crossing - \$70,000
 - Shared use path (new sections at HOFR) - \$700,000
 - On-road improvements within NHS - \$33,000
 - On-road improvements outside NHS – (specific improvements to be determined in consultation with local and state partners)
 - Mountain bike trails (new sections at RFF) - \$13,000
 - Bike/pedestrian bridge - \$1,200,000
 - Bicycle parking (7 locations) - \$10,500
 - Wayfinding signage - \$360,000
 - Information kiosks – (3 primary and 5 smaller) - \$55,000

- Total direct construction costs – \$3,000,000 (exclusive of potential on-road improvements outside of NHS)
 - Total costs within NHS - \$1,300,000
 - Total costs outside NHS - \$1,700,000
- Total cost with markups and add-ons per NPS Cost Estimating Requirements Handbook, Nov. 2007 - \$7,600,000

OPERATIONS AND MAINTENANCE COSTS

Estimates for operations and maintenance costs for trails vary widely based on trail type, usage, local climate/weather, and intensity of the maintenance program. One case study, highlighted below, represents actual and detailed costs for trail maintenance, and is on the high end of the range found for per mile maintenance costs. The researched case studies suggest similar per mile maintenance costs for paved versus unpaved trails.

The Asheville, North Carolina Greenways Master Plan itemizes maintenance costs per mile of paved trail as follows. These figures are based on national industry averages and should be seen as ball-park estimates.

▪ Drainage and storm channel maintenance (4 x/year)	\$500
▪ Sweeping/blowing of debris off trail (20 x/year)	\$1,200
▪ Pick up and removal of trash (20 x/year)	\$1,200
▪ Weed control and vegetation management (10 x/year)	\$1,000
▪ Mowing of 3' wide grass shoulder (20 x/year)	\$1,200
▪ Minor repairs to trail furniture/safety features	\$500
▪ Maintenance supplies for work crews	\$300
▪ Equipment fuel and repairs	\$600
▪ Total maintenance costs per mile	\$6,500

Based on these figures, initial maintenance costs (based on 16.2 miles of authorized trails, excluding park roads) could be approximately \$105,300 per year. The Asheville Plan suggests that a well-run Adopt-a-Trail Program could save as much as 50% of this cost.

GRANT FUNDING RESOURCES

TABLE C-1. FEDERAL BICYCLE/PEDESTRIAN FUNDING OPPORTUNITIES

Trailhead	NHS	STP	HSIP	TEA	CMAQ	RTP	FTA	TE	BRI	FLH	BYW
Bicycle lanes on roadway	*	*	*	*	*		*	*	*	*	*
Paved Shoulders	*	*	*	*	*				*	*	*
Signed bike route	*	*		*	*					*	*
Shared use path/trail	*	*		*	*	*			*	*	*
Single track hike/bike trail						*					
Spot improvement program		*	*	*	*						
Bicycle parking facilities		*		*	*		*	*			*
Trail/highway intersection	*	*	*	*	*	*				*	*
Sidewalks, new or retrofit	*	*	*	*	*		*	*	*	*	*
Crosswalks, new or retrofit	*	*	*	*	*		*	*		*	*
Signal improvements	*	*	*	*	*						
Curb cuts and ramps	*	*	*	*	*						
Traffic calming		*	*								

TABLE C-2. FUNDING SOURCE KEY

NHS	National Highway System	FTA	Federal Transit Capital, Urban & Rural Funds
STP	Surface Transportation Program	TE	Transit Enhancements
HSIP	Highway Safety Improvement Program	BRI	Bridge
TEA	Transportation Enhancement Activities	FLH	Federal Lands Highway Program
CMAQ	Congestion Mitigation/Air Quality Program	BYW	Scenic Byways
RTP	Recreational Trails Program		

APPENDIX D: PHOTOGRAPHS

SAMPLE PHOTOGRAPHS

The following photographs are samples of elements that could be incorporated at the sites as part of the trail system improvements. These photographs were taken at other parks.



Trail Sign



Interpretive Sign



Wayside Sign



Mile Marker



Park Sign



Trailhead

PHOTOGRAPHIC SIMULATION

The following photographs show the existing conditions at the Bard Rock boat landing and simulated future conditions following installation of improvements.



Existing conditions at Bard Rock boat landing.



Bard Rock boat landing with simulated placement of interpretive and wayfinding signs and boat racks.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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