

Final Master Plan/
Final Environmental Impact Statement
For
Clarence Fahnestock Memorial
State Park and
Hudson Highlands State
Park Preserve
December 15, 2010



David A. Paterson
Governor

Andy Beers
Acting Commissioner

Office of Parks, Recreation and Historic Preservation



SEQR
NOTICE OF COMPLETION OF A FINAL
ENVIRONMENTAL IMPACT STATEMENT

Date of Notice: December 15, 2010

Lead Agency: New York State Office of Parks, Recreation and Historic Preservation (OPRHP)

Title of Action: **Adoption and Implementation of a Master Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve**

SEQR Status: Type I

Location of Action: Clarence Fahnestock Memorial State Park is located in the Towns of Carmel, Kent, Philipstown and Putnam Valley in Putnam County. Hudson Highlands State Park Preserve is located in the Towns of Fishkill, Philipstown, and Cortlandt, the Villages of Cold Spring and Nelsonville and the City of Beacon within Dutchess, Putnam and Westchester Counties.

This Notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law. A Final Plan and Final Environmental Impact Statement (FEIS) on the proposed action has been prepared and accepted by OPRHP. The Executive Summary of the Master Plan/FEIS describes the proposed action, the environmental setting, alternatives and potential environmental impacts and mitigation.

Agencies and the public are afforded the opportunity to consider the FEIS; this consideration period ends on December 24, 2010. Copies of the Final Plan/FEIS are available for review at the Park Office; at the offices of the agency contacts and at the Butterfield Memorial Library, 10 Morris Ave. Cold Spring NY, the Howland Public Library, 313 Main Street, Beacon NY and at the Kent Public Library, 17 Sybil's Crossing, Kent Lakes NY. The online version of the Master Plan/FEIS is available at the following publically accessible web site: <http://www.nysparks.state.ny.us/inside-our-agency/master-plans.aspx>

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Final Master Plan/
Final Environmental Impact Statement

for

Clarence Fahnestock Memorial State Park and
Hudson Highlands State Park Preserve

*Towns of Carmel, Kent, Philipstown, Putnam Valley,
Fishkill, and Cortlandt
Villages of Cold Spring and Nelsonville
City of Beacon
Dutchess, Putnam and Westchester Counties*

Prepared by
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Completed: December 15, 2010

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Acknowledgements

The Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve Final Master Plan/Final Environmental Impact statement is a result of a cooperative effort by many persons. The Office of Parks, Recreation and Historic Preservation (OPRHP) acknowledges the time and effort of each individual, public agency and interest group who participated in the development of the park and this Draft Master Plan Document.

In a cooperative effort, the Agency worked with and coordinated input from the following agencies and organizations: New York State Department of Environmental Conservation, New York State Department of State, Division of Coastal Resources, the Friends of Fahnestock and Hudson Highlands, Scenic Hudson, New York-New Jersey Trail Conference, and many other organizations.

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Executive Summary

Introduction

The Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP) is proposing the action of adoption and implementation of a Master Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. The Final Master Plan/Environmental Impact Statement (FEIS) was written to provide the opportunity for individuals, organizations and other government agencies to participate in the development of the State Park.

A public scoping/information meeting was held to gather information, concerns and issues surrounding the development of the draft master plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. The meeting was held in the park at the Taconic Outdoor Education Center in Cold Spring, NY on September 22, 2009. A 30-day comment period was provided to collect comments and suggestions from patrons wishing to provide written comment. The public hearing for the Draft Master Plan/DEIS was held at Hubbard Lodge in Fahnestock State Park in Cold Spring, NY on October 13, 2010 at 7:00 PM.

The Commissioner has decided that a Master Plan/EIS is necessary to guide the management and development of the resources at Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. At this time, the Commissioner has decided that the final plan is to be made available for public review.

Park Background

Clarence Fahnestock Memorial State Park is located in north central Putnam County with portions in the Towns of Carmel, Kent, Philipstown and Putnam Valley. Hudson Highlands State Park Preserve is a series of separate units along a 16 mile stretch of the east shore of the Hudson River and extends eastward up to 4 miles. The park is located in three counties (Dutchess, Putnam and Westchester), three towns (Fishkill, Philipstown, and Cortlandt), two villages (Cold Spring and Nelsonville) and the City of Beacon.

Clarence Fahnestock Memorial State Park was established in 1930 when approximately 2,400 acres were donated by Dr. Ernest Fahnestock in memory of his brother, Clarence, for the development of the parkway and a state park. The original core of land around and including Canopus Lake was developed through the use of the Civilian Conservation Corps (CCC) camps which were established in the park and began development of the picnic area and campground, comfort stations, bridle paths, shelters, roads, and dams at Pelton Pond, Canopus and Stillwater lakes. Approximately 2,700 acres were added to the park in the 1960s, the Taconic Outdoor Education Center opened in the 1970s, Canopus Beach was opened in the early 1980s, and an additional 3,800 acres of land was added to the park during the 1980s as well. Through the late 1990s and early 2000s additional land was added to the park to bring the current acreage to 14,082.

Hudson Highlands State Park Preserve was established in 1938 when two parcels totaling 177 acres on the face of Breakneck Ridge were donated to the State by the Whitney and Nelson families through the efforts of the Hudson River Conservation Society. Little Stony Point and Bannerman's Island were acquired in 1967 and additional lands were added in the 1960s bringing the park to approximately 3,000 acres. An additional 1,100 acres of land was added in the 1970s including the Osborn Preserve, Constitution Marsh and Indian Brook Falls. In the 1980s, the north face of Anthony's Nose and Denning's Point were acquired adding approximately 300 acres to the park. Arden Point, the top of Anthony's Nose and the Harriman Toll House were added to the park during

the 1990s and the Annsville Creek facility transferred from NYS Department of Transportation to OPRHP for redevelopment as Annsville Creek Paddlesport Center in the early 2000s. About 2,600 acres were acquired in the 1990s, including Revolutionary War sites at the North Redoubt and Connecticut Camps, north end of the Highlands at Route 9 / I-84, part of Surprise Lake Camp, Dockside, University Settlement Camp and the City of Beacon watershed property at South Mount Beacon, bringing the park to its current size of 6,942 acres.

Environmental Setting

Both Fahnestock State Park and Hudson Highlands State Park Preserve contain a wealth of natural resources and rich biodiversity. The natural communities of the two parks are similar in composition. Appalachian oak-hickory forests dominate and can be found on the mid to upper elevations, integrating with chestnut oak forests at higher elevations and oak-tulip tree forests at lower elevations.

Clarence Fahnestock Memorial State Park has five natural communities that are considered significant from a statewide perspective. The 7,184-acre chestnut oak forest within the park is one of the largest documented occurrences of this forest type in New York State and the largest documented east of the Hudson River. Additionally, Clarence Fahnestock Memorial State Park supports at least five rare animal species and other species of conservation concern, including one species considered a candidate for federal listing, as well as one rare plant population listed as state endangered.

Hudson Highlands State Park Preserve contains eleven significant natural communities, including high quality pitch pine-oak-heath rocky summit and red cedar rocky summit communities. It also harbors seven rare plant species, including six plants listed as state threatened. Hudson Highlands State Park Preserve also supports five state threatened, one state endangered, and five state rare animal species, including one federal candidate species, as well as several additional species of conservation concern.

Hudson Highlands State Park Preserve also includes Constitution Marsh, a 270-acre brackish tidal marsh along the Hudson River. The marsh is managed by the National Audubon Society and operates as an Audubon Nature Center and Sanctuary. It is one of only five large tidal marshes remaining on the Hudson River. The marsh contains several rare species of breeding birds, rare plants and rare insect populations.

Fahnestock has several lakes, ponds, streams, and wetland areas within its boundary. Several of the water bodies are natural, and others are man-made, and all provide both habitat protection and recreation opportunities in the park. At Hudson Highlands, the Hudson River, streams and wetlands (especially Constitution Marsh) are the major water resources of the park.

The recreational activities in the parks include hiking, mountain biking, camping, cross country skiing, swimming, picnicking, fishing, and hunting.

There are also numerous historic resources in both parks. Fahnestock has several CCC era structures and Hudson Highlands has historic sites that date back to the Revolutionary War.

Vision and Goals

Agency Mission Statement

The mission of Parks, Recreation and Historic Preservation is to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural, historic and cultural resources.

Park Vision

Fahnestock

Clarence Fahnestock Memorial State Park provides protection of an extensive upland contiguous forest, ecosystems, and undeveloped tracts of land within the New York Highlands region while hosting a wealth of recreation opportunities including hiking, camping, swimming, equestrian, fishing and boating and the Winter Park. The Taconic Outdoor Education Center provides environmental education and interpretation for elementary to high school groups, scout troops and clubs within an hour's drive of New York City. Fahnestock will continue to offer year-round recreation with the goal of expanding the park and its recreational opportunities and the protection of its natural resources for future generations.

Hudson Highlands

Hudson Highlands State Park Preserve offers miles of challenging trails and rewards park visitors with stunning views of the Hudson River and the Highlands. It connects people to the river and the unique history of the Hudson Valley while providing critical habitat for native and rare flora and fauna. Hudson Highlands will continue to support passive recreation and will continue to expand and protect open space and critical habitat in the Highlands region. The park will make an effort to establish greater collaboration for environmental education and outreach and will improve connectivity for people and wildlife.

Park Goal

To achieve a balance between recreation and the protection of natural and cultural resources of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Resource Goals

Natural Resource Goals

To protect, preserve and interpret the natural resources of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Recreation Goals

To provide day use facilities and programming that is compatible with the natural and cultural resources of both parks, as well as camping at Fahnestock Memorial State Park.

Cultural Resource Goals

To protect, preserve and interpret important historic structures, landscapes and archeological resources within Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Scenic Resource Goals

Protect the scenic quality of the parks; especially the open views, vistas and picturesque landscapes.

Open Space Protection Goals

Protect open space within and adjacent to the parks through acquisition, conservation easements, designation, and coordination with public and private partners.

Access Goals

Provide appropriate access to and within Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Education and Interpretation Goals

Provide opportunities for education and interpretation of the natural, cultural and recreational resources of the parks.

Operation and Maintenance Goals

Operate and maintain the park in a safe, clean and sustainable manner that protects the natural and cultural resources of the park and the welfare of the park patrons.

Facility Development and Capital Investment Goals

To provide quality facilities with a consistent design aesthetic while utilizing sustainable / green building practices and respecting historic character.

Communication and Partnership Goals

Develop partnerships with other organizations, federal, state and local agencies, not-for-profit groups and the private sector.

Inventory, Monitoring and Research Goals

Encourage the inventory and monitoring of and conduct scientific research of the natural and cultural resources of the parks.

Analysis & Alternatives

The master plan presents a series of “preferred alternatives” for future development and operation of the park. Cumulatively, the actions described below present OPRHP’s long term vision for the enhancement of the park.

The Master Plan

Natural Resource Protection

The plan includes the following management strategies which will provide guidance and direction for the management of significant natural communities, water resources, flora and fauna and invasive protection of natural resources through the following actions:

- Protect and buffer wetland habitat.
- Designate Natural Heritage Areas in both parks.
- Designate Hudson Highlands as a Park Preserve.
- Designate a Park Preservation Area within Fahnestock.

- Expand the existing Bird Conservation Area at Fahnestock and designate a second BCA at Hudson Highlands.
- Prepare and implement the Summit Communities, Wetland, Invasive Species, Deer, Rare and Endangered Species, Stream, and Aquatic Invasive Species Management Strategies.
- Conduct additional rare plant and animal surveys.

Recreation Facility Development and Programs

Recreation facility improvements will include:

Trails

The Final Trails Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve 2010 (Appendix B) provides guidance for the upgrading and maintenance of the trail systems to accommodate a variety of year-round recreational uses and provide for educational and interpretive experiences. Key components of the plan include:

- Provide increased trail opportunities and connections throughout the parks' trail systems as well as external connections to trails on adjacent lands, surrounding communities and mass transportation.
- Allow hiking and snowshoeing on all existing, newly developed and newly designated trails (with the exception of groomed cross country ski trails).
- Enhance equestrian and mountain biking opportunities in both parks.
- Increase the groomed cross country ski trail system of Fahnestock Winter Park by one additional loop around Stillwater Lake.
- Maintain existing marked snowshoe trails of Fahnestock Winter Park.
- Designate trails for un-groomed cross country skiing in both parks.
- Enhance trailhead parking facilities in a number of locations.
- Improve trail signage including trailhead and trail intersection signage throughout both parks to enhance the visitor experience and increase patron safety.
- Enhance interpretation of natural, cultural and historical resources along trails.
- Designate trails in Hudson Highlands State Park Preserve as part of the regional Highlands Trail.

Fishing

- Continue to provide fishing access at existing locations within both parks.

Camping

- Relocate some existing campsites within the Fahnestock campground. Renovate one of the CCC era shower and restrooms and construct a second shower/restroom within the campground. Improve the existing roadway.

Overnight Accommodations

- Develop overnight accommodations at the former University Settlement Camp.

Pelton Pond

- Rehabilitate and improve the picnic area with new picnic tables and grills. A trail will be formalized from the picnic area to the bathrooms. The bathrooms will also be renovated. Lastly, the existing parking area will be redesigned and raised to be level with Route 301.

Fahnestock Winter Park

- Create an additional ski trail and improvements to the lodge/concession building and restrooms.

Canopus Lake Recreation Area

- Dredging/sand reclamation will be done to improve the depth and quality of the swimming area. The beach will be made smaller and grass will be planted adjacent to the walkway and on both sides of the existing beach. The grass will be an alternative to the sand and will form a buffer to reduce erosion into the lake during rain events.
- A fishing dock and a playground will be constructed at the beach.
- A ball field with a backstop will be developed in the field near the parking lot.
- A new picnic area will be constructed.

Canopus Lake Boat Launch

- Conduct sand reclamation to improve launching conditions. In addition, the rental booth will be expanded slightly to improve the storage space for boats not in use. A small floating dock will also be installed in this area, away from the boat launch, for fishing.

Hunting

- Open additional areas for recreational hunting in both parks and begin studies to further expand hunting in the parks.

Cultural Resource Protection

The parks have an extensive history within the Hudson Valley Region. As such, the protection and interpretation of the cultural resources is also an important part of the master plan. Associated actions include:

- Conduct cultural resource inventories at both parks.
- Prepare nomination for 3,000 acres of Fahnestock and the former University Settlement Camp in Hudson Highlands to be listed on the National Register of Historic Places.
- Develop cultural resource interpretation and education programming.
- Protect the archaeological resources on a case by case basis where ground disturbance is anticipated during construction.

Scenic Resource Protection

Scenic resources are an important feature within both parks. Protection will be given to their scenic nature through the following actions:

- Protect the viewshed from the Hudson River and of the river. The design and location of the proposed visitor center at Hudson Highlands will use materials which blend in with the surroundings. The design of the visitor center will consider low pitch roof lines, natural color tones, sensitive placement and vegetative screening.
- Enhance views of the Hudson River Valley on trails through the selective removal of trees or shrubs at key points along the trails. Existing vista points will be maintained.
- Work with park partners to protect scenic views of private lands from the parks.

Interpretation and Education

Interpretation and education throughout the park will be enhanced by the following actions:

- Design and construct a Visitor Center at Hudson Highlands to facilitate interpretation and education opportunities.
- Provide interpretation and education on the various cultural resources of both parks.
- Provide interpretation and education on other topics such as the region’s military history, and the geologic and natural history of the park.

Infrastructure and Operations

- Design and construct the proposed new Park Office at Fahnestock.
- Design and construct the proposed Visitor Center and parking area at Hudson Highlands.
- Continue to renovate the cabins at TOEC; begin interior renovations to the main lodge.
- Renovate the park buildings at Canopus Beach (concession/lifeguard buildings and bath houses).
- Maintain existing park roadways and parking areas. Improvements to the existing Fahnestock campground road will be made to improve the road surface and grading; the existing parking lots at Canopus Beach and Little Stony Point will be formalized and striped. Several other parking areas, including the lot at the Peninsula on Canopus Lake and Canopus Lake Boat Rental lot, will be improved. Improvements will also be made to the roadway at Stillwater Lake.
- Install a new dock at Stillwater Lake and remove trees from the dam.
- Design and construct a new parking area at Hubbard Lodge.
- Construct a multi-use bridge over Route 301 near the entrance to Canopus Beach and the campground.
- Demolish several buildings in both parks (the complete list can be found in Appendix A).

Implementation

The Master Plan presents a vision for the rehabilitation and construction of improvements to the park. The plan identifies two priority levels and actions which are ongoing throughout the park. The pacing of plan implementation will depend on the availability of funds and labor to advance the proposed improvements, which need to be sequenced with other capital improvements in the park and Taconic Region. The priority groupings are conceptual and subject to reorganization based on available resources. The table below outlines Master Plan implementation priorities.

Table 1 - Implementation Priority List

Immediate Action	Description/Development Component
	<ul style="list-style-type: none"> • Designate Hudson Highlands as a Park Preserve and a Park Preservation Area in Fahnestock.
	<ul style="list-style-type: none"> • Expand the BCA at Fahnestock and designate a second BCA at Hudson Highlands.
	<ul style="list-style-type: none"> • Designate Natural Heritage Areas in both parks.
Priority 1	
	<ul style="list-style-type: none"> • Conduct cultural resource inventories at both parks.
	<ul style="list-style-type: none"> • Expand trail system at Winter Park and renovate buildings in the Canopus Beach Complex.
	<ul style="list-style-type: none"> • Construct new park office and parking area at Fahnestock.
	<ul style="list-style-type: none"> • Demolish designated buildings at both parks.

	<ul style="list-style-type: none"> • Implement trails plan (improvements/changes to the existing trail systems, new shared-use—hiking, biking, equestrian—trails). • Relocate campsites at the Fahnestock Campground, construct new bathroom/shower facility and improve campground road.
	<ul style="list-style-type: none"> • Begin improvements and rehabilitate the Pelton Pond day use area.
	<ul style="list-style-type: none"> • Renovate and expand Canopus Beach complex. Implement sand reclamation/dredging projects at Canopus Beach and install playground, beach area improvements, and fishing docks.
	<ul style="list-style-type: none"> • Rehabilitate the peninsula at Canopus Lake.
	<ul style="list-style-type: none"> • Develop new parking area at Hubbard Lodge.
	<ul style="list-style-type: none"> • Rehabilitate and improve launch and parking area at Canopus Boat Launch area, including the development of an accessible parking lot.
	<ul style="list-style-type: none"> • Implement trailhead parking improvements, including formalizing existing parking areas, signage improvements and crosswalks where applicable utilizing pervious paving materials whenever feasible.
	<ul style="list-style-type: none"> • Improve parking lot at Little Stony Point by paving and striping the existing parking area. Install crosswalks and improve sight distance.
	<ul style="list-style-type: none"> • Renovate cabins at TOEC and the lodge to improve the energy efficiency and to enhance the visitor experience.
	<ul style="list-style-type: none"> • Design and construct the visitor center and parking area at Hudson Highlands.
	<ul style="list-style-type: none"> • Revisit agreements with the Little Stony Point Citizens Association, the Appalachian Trail Council, the Beacon Institute, and finalize agreement with the Village of Cold Spring at Dockside.
	<ul style="list-style-type: none"> • Develop Invasive Species Management Plans for both parks.
Priority 2	
	<ul style="list-style-type: none"> • Replace bridge and improve recreational access at Denning’s Point.
	<ul style="list-style-type: none"> • Develop multi-use bridge over Route 301 between campground and Canopus Beach.
	<ul style="list-style-type: none"> • Work with the City of Beacon on implementing overnight accommodations at former University Settlement Camp.
	<ul style="list-style-type: none"> • Nominate 3,000+/- acres of Fahnestock to the National Register of Historic Places.
	<ul style="list-style-type: none"> • Improve access to North Redoubt.
On-Going	
	<ul style="list-style-type: none"> • Continue managing scenic landscapes and vistas and begin managing historic landscapes and vistas that require rehabilitation.
	<ul style="list-style-type: none"> • Continue implementation of the following natural resource management strategies: deer, invasive species, summit communities, rare and endangered species, wetlands, stream, and aquatic invasive species.
	<ul style="list-style-type: none"> • Continue trail maintenance.

	<ul style="list-style-type: none">• Undertake dam maintenance and improvements at both parks.
	<ul style="list-style-type: none">• Continue land acquisition in both parks to improve connectivity and expand buffers.
	<ul style="list-style-type: none">• Assess cooperative management and operations agreements on an annual basis.
	<ul style="list-style-type: none">• Implement a cohesive signage aesthetic for the highlands region.
	<ul style="list-style-type: none">• Establish and secure easements for existing informal trail access agreements with various organizations/agencies.
	<ul style="list-style-type: none">• Continue environmental and cultural education and interpretation.
	<ul style="list-style-type: none">• Open additional areas for recreational hunting in both parks and begin studies to further expand hunting in the parks.

Environmental Impacts

Consistent with the intent of the State Environmental Quality Review Act (SEQR), environmental considerations were among the criteria used in evaluating alternatives and in selection of elements within the Master Plan. Categories of impacts that were evaluated were: land resources, water resources, air quality, biological resources/ecology, scenic resources, historic and archeological resources, open space and recreation, traffic and access, public health and safety, energy, noise and odor, as well as growth and character of the community and neighborhood. Actions outlined in the Master Plan are designed to minimize impacts in all of these areas. Several items discussed in the Master Plan have been identified as likely to require additional review under SEQR as the scope of work for these projects is not known at this time. . Specifically, the Visitor Center at Hudson Highlands, the Highlands Trail through Fahnestock State Park, and bridge rehabilitation and other recreational improvements at Denning's Point, parking and trailhead at the North Redoubt area and the rehabilitation of dams in either park are not being reviewed as part of the Master Plan and will likely require supplemental review when these projects are designed and implemented.

The plan will result in some physical change to the land where new recreation facilities and trails will be constructed or where existing facilities will receive rehabilitation. Most projects will involve construction within the same "footprint" of existing use areas, however, the new parking lot at Hubbard Lodge, the new pedestrian bridge over Route 301 and 6.7 miles of new trails will require construction in currently undeveloped areas. There will be improvements to parking areas, most of which will be accomplished through formalizing or restriping existing areas. Pervious pavements will be used wherever possible. Erosion control and storm water management techniques will be incorporated into site specific designs for all construction projects that will disturb soils.

New trail construction will include review of final trail layouts in the field by appropriate agency staff to ensure consistency with trail standards and protection of sensitive resources. The policy and guidelines for trail building that have been established by recognized trail organizations and governmental agencies will be followed. The goal of all trail work in both parks is to have trails that provide access to the resource without adversely affecting it.

The Master Plan implementation is expected to have minimal impact to water resources. The dock project at the Canopus Boat Launch and the maintenance dredging of the Canopus Beach area will result in some water quality impacts. These impacts will be mitigated through the use of Best Management Practices. Some existing trails may be causing some water quality impacts and will be assessed on a case by case basis to determine the best course of action to minimize impacts. All new facilities, including trails, will be designed to insure that adequate vegetative buffers are maintained between facilities and adjacent water resources. The Master Plan also calls for periodic water quality monitoring of all park streams and lakes.

OPRHP will continue to work closely with National Audubon to protect Constitution Marsh as one of the major wetlands within the Hudson Valley. This will include continuing to support Audubon in control of Phragmites in the marsh and to increase public knowledge about the natural resources of the marsh, as well as its recreational carrying capacity.

The importance of the natural resources in both parks will be recognized through the designation of the Bird Conservation Areas and Natural Heritage Areas. In addition, Hudson Highlands State Park Preserve will be designated as a Park Preserve and a large area of Fahnestock will become a Park Preservation Area under Article 20 of the State Parks, Recreation and Historic Preservation Law. These designations recognize that these areas are invaluable and irreplaceable parts of the state's

natural heritage and will provide additional natural resource protection as well as call for increased interpretation of those resources.

Direct impacts to biological resources are expected to be minimal since most projects will be sited in areas with previous development, limited environmental sensitivity and which generally possess accessibility to, and use of, existing infrastructure. This includes those projects that are within existing development footprints, as well as the projects which will be built in currently undeveloped areas. Existing sections of trails that align near sensitive natural areas such as rare species populations, water resources or significant ecological communities will be assessed on a case by case basis to determine ways that impacts caused by recreational use can be mitigated. The Master Plan calls for continued monitoring of surrounding land uses to insure that adjacent development does not impact the park's biological resources. The Plan also calls for increased enforcement to address illegal ATVs and off-road vehicle use; particularly in the northern sections of both parks.

The Master plan calls for additional monitoring of the many rare, threatened or endangered species that exist in both parks. It also calls for steps to be taken to address impacts from deer over-population and for the preparation of an invasive species management plan for both parks.

The Master Plan recognizes the important historic and archeological resources within both parks and calls for additional surveys of historic and cultural resources and the preparation of management plans for important historic features such as the North Redoubt and the Connecticut Camps, to provide improved protection for these significant historic areas. The Plan also recommends a nomination for the National Register for the former University Settlement Camp and the original core of Fahnestock to provide additional recognition and protection of the history and cultural resources of these areas.

The scenic character of both parks is a very significant resource of the Hudson Valley. The plan proposes continued maintenance of existing scenic areas along roads, and at designated vistas on trails. Any new construction or renovations to existing structures will be designed to complement their surroundings and will not be visually intrusive.

Implementation of the Master Plan will result in substantial beneficial recreation and open space impacts. The plan provides for a wide variety of new and improved recreation facilities and visitor amenities. Implementation of the Trails Plan will result in a better organized trails system which will accommodate a variety of uses including: hiking, biking and equestrian, as well as cross country skiing and snowshoeing.

The plan proposes no changes to traffic circulation or access and current capacity is expected to meet the proposed needs. Health and safety of patrons and staff will continue to be a priority. Overall, the additional amenities are not expected to significantly increase visitation of the park.

Sustainability principles and energy efficiency will be incorporated into the design of all proposed construction. Master Plan implementation may result in some temporary increases in noise during construction. Construction is generally scheduled for periods of low park use to minimize impacts to park visitors.

As Hudson Highlands State Park Preserve is located within New York's coastal area, and the Master Plan was reviewed for consistency with the NY Coastal policies. Based on review of applicable policies it is OPRHP's determination that the plan will not substantially hinder the achievement of any of the State's coastal policies.

Chapter 1: Introduction

Planning and Environmental Review

Planning

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) planning process adheres to three basic principles:

- **Planning is a continuing process:** Assumptions for the classification and management of park resources must be constantly re-evaluated in light of new information, changing needs and priorities, and resource character.
- **Planning must be comprehensive:** The information base, and pertinent additional research, should support the planning process and should encompass relevant social, economic and physical factors relating to the management and operation of the park and its resources.
- **Planning must be coordinated and provide for public participation:** Cooperation among appropriate governmental organizations, the public at large, special interest groups and the private sector is not only desirable but necessary.

Environmental Review

The environmental review of proposed master plans for state park facilities is conducted in accordance with the State Environmental Quality Review Act (SEQR). OPRHP fully integrates the planning and environmental review processes. This document serves as both the Master Plan and the Environmental Impact Statement for Fahnestock State Park and Hudson Highlands State Park Preserve.

Sustainability

Sustainability is a philosophy on how to improve, operate and maintain State Parks and Historic Sites, while at the same time, minimizing the impacts of State Parks and Historic Sites have on the natural environment.

Sustainability looks at the whole rather than the individual parts to maximize energy efficiency and minimize environmental impact; reduce use of fossil fuels; reduce or eliminate hazardous substances; protect biodiversity and ecosystems; and use resources carefully, respectfully and efficiently to meet current needs without compromising the use of those resources by future generations.

OPRHP is committed to reducing its impact on the environment and to becoming more carbon neutral by adopting more sustainable practices in park development, improvement, operation and maintenance. Through out this Master Plan, sustainable practices and alternatives were incorporated and considered in the analysis, master plan and implementation sections and also during the development of the document.

Ecosystem-Based Management (EBM)

OPRHP has embraced the principles of ecosystem-based management (EBM) that support master plans in providing direction for the conservation and protection of coastal and water shed ecosystems. The principles of EBM are included in the master plan. These principles are: having a place based focus, base management decisions on the best available science, have measurable objectives to direct and evaluate performance, use adaptive management to respond to new

knowledge and changing conditions, recognize interconnections within and among ecosystems, and involve stakeholders to incorporate local knowledge. An EBM approach to management ensures that decisions are made holistically focusing not on a single species or resource, but considering all parts of the ecosystem, including humans.

Introduction to the Parks

Establishment of the Parks

Clarence Fahnestock Memorial State Park

The park was established in conjunction with the design and construction of the Eastern (Taconic) State Parkway, was the first State Park in Putnam County and the second park on the parkway. In 1929, a 300 acre parcel containing an attractive stretch of Roaring Brook was acquired north of Peekskill Hollow Road for the parkway alignment entering the Highlands of central Putnam County and the surrounding area was briefly known as Roaring Brook State Park. The following year, Dr. Ernest Fahnestock and his wife donated nearly 2,400 acres for the parkway and a park in memory of Dr. Clarence Fahnestock. Development of the park for picnicking, hiking and equestrian trails, fishing and camping commenced in 1931 and coincided with the ground-breaking for the first section of the parkway at the Westchester-Putnam boundary. Civilian Conservation Corps camps established in the park in 1933 advanced the park development, reconstruction of the Carmel-Cold Spring Road (Route 301), and the parkway. The parkway was opened as a two lane drive to Route 301 in 1936. The park began expanding in the 1960s and is now one of New York's larger State Parks at 14,082 acres.

Hudson Highlands State Park Preserve

The park was established in 1938 when two parcels of 177 acres on the face of Breakneck Ridge were donated by the Whitney and Nelson families through the efforts of the Hudson River Conservation Society. These were designated as "Scenic Areas #1 and #2" and remained isolated holdings for many years while other parks were acquired and developed along the Hudson River and the Taconic State Parkway. Consolidated Edison's plan to build a pumped storage hydro-electric plant on Storm King Mountain, and a similar proposal by Central Hudson for the Breakneck Brook area, produced new calls for a State Park to protect the Hudson Highlands on the east side of the river. With substantial financial assistance from Jackson Hole Preserve, Inc, a Rockefeller family-supported conservation fund, purchases for the new park began in 1967 at Little Stony Point and within two years 2,700 acres were acquired between Cold Spring and Beacon in Putnam and Dutchess counties. The park now consists of a series of 15 areas encompassing 6,942 acres throughout the eastern Hudson Highlands in Dutchess, Putnam and Westchester counties.

Planning that has been done in the past

A master plan was completed for Fahnestock in the 1940s. Since that document, no formal, comprehensive plans have been developed for the park; however, the park has expanded significantly and infrastructure has been implemented (e.g. Canopus Beach). A master plan was developed for Hudson Highlands in the early 1960s and several interim management guides have been developed for the park in recent years.

What has prompted the preparation of this report?

Both parks have expanded significantly over the last fifteen years and, as a result, the management responsibilities of these parks have increased. In addition to their expansion, aging infrastructure and

the need to address longstanding issues with respect to natural resources, recreation and park operations at both facilities has yielded the development of this master plan.

Chapter 2: Park Background

The Region

New York State is divided into 12 park regions. Eleven of these regions are under the jurisdiction of the Office of Parks, Recreation and Historic Preservation (OPRHP). The twelfth region is composed of the Adirondack and Catskill Forest Preserves and is administered by the Department of Environmental Conservation (DEC). Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve are located in OPRHP's Taconic Region.

Location and Access

Clarence Fahnestock Memorial State Park is located in north central Putnam County with portions in the towns of Carmel, Kent, Philipstown and Putnam Valley. The park is traversed by the Taconic State Parkway, US Route 9, NYS Route 301 and several local roads. Rail stations operated by Metro North Railroad are within ten miles of the park at Garrison, Cold Spring and Beacon. The park does not have a single, formal entrance.

The Canopus Beach, Winter Park and the campground are located in close proximity to the intersection of Route 301 and the Taconic State Parkway. Other developed parts of the park are accessed from the parkway (Stillwater Lake), Route 301 (Pelton Picnic Area and Park Office), Indian Brook Road (Taconic Outdoor Education Center) and Route 9 (Hubbard Lodge). Access to the park's trail network is provided at small parking areas throughout the park. The Appalachian National Scenic Trail crosses the park in a southwest-northeast direction for over ten miles. The park receives substantial local use, and serves the New York City Metropolitan area to the south, as well as out-of-state users. See Figure 1 for a vicinity map of the park.

Hudson Highlands State Park Preserve is a series of separate units along a 16 mile stretch of the east shore of the Hudson River and extends eastward up to 4 miles. The park is located in three counties (Dutchess, Putnam and Westchester), three towns (Fishkill, Philipstown, and Cortlandt), two villages (Cold Spring and Nelsonville) and the City of Beacon. The park lies directly across the Hudson River from state parks at Bear Mountain, Harriman and Storm King Mountain. Rail access to the park is excellent with Metro North stations at Beacon, Cold Spring and Garrison, and limited service for hiking provided by stops at Manitou and Breakneck Ridge. Vehicular access to the park is provided I-84, US Route 9, NYS Routes 9D, 301, 403, 202/6, as well as local highways. Access is also provided from the Hudson River at Denning's Point, Hammond brickyard, Bannerman's Island, Little Stony Point, Dockside, Arden Point, Constitution Marsh, and Annsville Paddlesport Center. Portions of the Hudson River Water Trail, Hudson River Greenway and the Appalachian National Scenic Trail cross the park. Additional access is provided from other conservation lands and historic properties operated by other public and private entities. See Figure 1 for a vicinity map of the park.

Economic Contribution (Impact of the Park)

In March 2009, a study prepared for Parks & Trails New York by the Political Economy Research Institute (PERI), University of Massachusetts-Amherst found that the combination of state and visitor spending at State Parks supports up to \$1.9 billion in economic output and business sales and up to 20,000 jobs throughout the state. For the Taconic Region, which includes Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve, the figures are \$102 million and 957 jobs. State expenditures in the Taconic Region during fiscal year 2008/09 were \$15.4 million for operating expenses and \$15.1 million for capital expenditures. Visitor expenditures within the Taconic Region were estimated to be between \$52.9 million and \$109.0 million. The analysis by

PERI was done on the regional level. In the discussion below, the economic impact of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve is estimated using two different methodologies. The results generated by OPRHP data and the results from PERI are reasonably similar.

For fiscal-year 2009/2010, the estimated annual attendance for both parks was 368,784 (Fahnestock—244,536 and Hudson Highlands—157,248). Fahnestock reported camping attendance of 27,192, approximately 13% of the total park attendance. Also reported was \$102,918 in camping revenue, almost 1/3 of the total park revenue (\$319,566) for the year. Campers are more willing to travel, bringing in money from outside the park community. Because of the expenses incurred by traveling, campers spend more than other types of recreation participants. While at their destinations, they also tend to spend more than day users. The dollars used for these expenditures, typically food, gasoline, entertainment, continue to circulate in the local community of the park.

There are additional activities taking place that increase the economic contribution of the park. Among them are the Fahnestock Winter Park (FWP) and the Taconic Outdoor Education Center (TOEC). Records are kept on the attendance and revenue for these two entities that are separate from the Fahnestock Revenue reports. The effects of these are discussed here. The FWP is a very attractive destination for cross country skiers, many of whom travel over one hour to the park (a sample of the customers who rented equipment showed 45% coming from New York City). As might be expected, most spend money on gasoline and food for these trips and many also seek overnight accommodations, increasing the economic impact to the surrounding communities.

While cross-country skiing may be the biggest draw for winter attendance at Fahnestock, other activities also bring people to the park. There is maple sugaring with an annual pancake breakfast and educational programs. For the most recent winter (2009/10), the reported attendance was 4,669 for FWP and 16,235 for TOEC. Winter activities at Fahnestock, as at other State Parks, are important in providing year-round economic stimuli.

Ecosystem Services

The NYS parks system, a valuable collection of natural and recreational assets, maintains and protects in perpetuity the ecosystems and biodiversity of the state, including rare, threatened and endangered species, as well as ecological, scenic and geological resources. Many times, it is these same resources of the parks, the scenic vistas in Hudson Highlands or the extensive forested areas of Fahnestock, that draw visitors to our parks, who in turn provide economic benefits.

Ecosystems within state parks also provide many support services to communities, such as reducing negative effects of pollution, supporting soils and providing erosion control, protecting water quality, re-charging ground water, providing flood and storm protection, and supporting critical ecosystems and wildlife habitats. These irreplaceable “ecosystems services” are essential for sustaining economies and communities over time. State parks also provide affordable recreation opportunities, preserve open space and areas of historic importance, and can influence businesses to locate near parks that contribute to a higher quality of life.

The economic benefits of these services are not easy to value but research that has attempted to quantify ecosystem benefits suggests they would exceed estimates of the impacts of government and visitor spending.

Recreational Needs Assessment

According to the 2009 Statewide Comprehensive Outdoor Recreation Plan (SCORP), relaxing in the parks continues to be the recreation activity enjoyed by most New York residents. This is followed

by walking/jogging, visiting museums/historic sites, swimming, and biking. Walking/jogging has the highest total of activity days followed by relaxing in parks, swimming, visiting museums/historic sites, and biking (OPRHP 2009).

The Relative Index of Recreational Needs (RIN) in SCORP ranks needs in a county by assigning a numerical scale (10 being the highest need and 1 being the lowest) to an activity by considering the supply of recreation facilities and the level of participation and estimating how that level of participation will change in the future.

Hudson Highlands and Fahnestock attract primarily local users with some visitors from surrounding counties and outside the region. Given its location in the Hudson Valley, and proximity to several counties, the service area for the park includes Putnam, Westchester, Orange, Dutchess and Bronx Counties.

The Recreation Index of Need (RIN) for Hudson Highlands and Fahnestock shows the activities with the highest relative index of need in the service area are as follows: biking, walking for pleasure, equine activities, hiking, cross country skiing, field games, visiting historic sites, and relaxing in the park. Using these numbers, these activities will, over the period 2005 to 2025, experience the greatest growth in the service area relative to the existing supply of resources.

Recreational Needs from Public Comment

The comments received verbally and in writing at the public information meeting and by postal mail and email were weighted fairly equally between recreation and resource protection. This may indicate a general public desire to continue the recreational activities in the park while protecting the natural and cultural settings of the parks.

Of the comments that were related to recreation, a comparison of the RIN index reveals that several of the needs expressed by the public are the same as those with the highest RIN scores and can be met at the parks, including biking, walking for pleasure, equine activities, hiking, cross country skiing, visiting historic sites and relaxing in the park. Field games are currently not accommodated in the park but proposals in this master plan to add some locations for field games will begin to address this activity.

The Parks

Park Boundaries and Adjacent Land Uses

Clarence Fahnestock Memorial State Park

The 14,082 acre park is located in the Putnam County towns of Carmel, Kent, Philipstown and Putnam Valley. The boundary is irregular, extensive in length, and includes long sections where State and local roads pass through the park. The boundary along the Taconic State Parkway was established at 100' from the centerline of the north and south lanes except at the old ski area where it is 50 feet. The park surrounds several privately held parcels and two parcels of the park are isolated from the remainder of the park. See Figure 2A for a map of the park boundary.

Fahnestock is surrounded by a variety of existing land uses. Conservation lands owned by the National Park Service, NYC Department of Environmental Protection, NYS Department of Environmental Conservation, Garrison Fish & Game Club, Boy Scouts of America, Peekskill Water Supply, and the Open Space Institute make up a substantial portion of the park boundary. Conservation easements on 2,018 acres of these properties are held by OPRHP. A power line corridor owned by the New York State Electric & Gas Corporation abuts much of the park's eastern

boundary, with NYC Watershed lands and NYS DEC multiple use areas beyond. Densely developed residential areas are located adjacent to the park at Roaring Brook Lake and Oscawana Lake, with more rural residential uses on the west and north. The AT&T communication tower off Route 301 is one of the few commercial land uses adjacent to the park. Portions of the Route 9 corridor are zoned for or developed for commercial use. Vacant wooded lands, zoned for residential use, make up the remainder of adjacent land uses. All four towns have zoning regulations in place. See Figure 3 for a land use classification map.

Hudson Highlands State Park Preserve

The park consists of fifteen (15) separate units with a current total of 6,942 acres of land in three counties. The boundaries are generally within the area from the Hudson River east to Route 9, and from I-84 south to Annsville Circle. See Figures 2B and 2C for maps of the park boundary. The following is a brief description of each unit and its adjacent uses:

Denning's Point is a 65 acre peninsula on the Hudson River in the City of Beacon, Dutchess County, at the mouth of the Fishkill Creek. It has extensive Hudson River frontage, the confluence of the Fishkill Creek with the river and is surrounded by a 178 acre water grant. The property is accessed by Denning's Avenue Extension, a city street, which ends at the east approach to the bridge over the Metro North tracks. The Danbury Secondary, an east-west rail line also owned by Metro North Railroad, is crossed at grade within the property. The Klara Sauer Trail, extending south from the Metro North station at Beacon, provides pedestrian and bicycle access to the park. Denning's Point is bounded by the Hudson River and the west boundary of the Metro North railroad tracks. Beyond the railroad, the land uses include the City of Beacon's water and sewage treatment plants and a capped municipal landfill. Scenic Hudson's Madam Brett Park is located along the Fishkill Creek with potential for connection to Denning's Point.

Northeast Fishkill Ridge is a 641 acre portion of the northern Hudson Highlands in the Town of Fishkill, Dutchess County near the intersection of I-84 and US Route 9. It is considered part of the northern gateway of the Hudson Highlands and includes a portion of the prominent north face of the Fishkill Mountains and segments of Fishkill Creek and Clove Creek. The property has extensive frontage on US Route 9. Adjacent land uses include the I-84 and Route 9 transportation corridors, the commercial complex at Dutchess Mall, a golf course and driving range, and industrial zoning to the south. To the west is the 1,000+/- acre Fishkill Ridge Conservation Area owned by the Scenic Hudson Land Trust. Residential uses in the Beacon Hills area are located in the narrow band between this part of the park and the Fishkill Creek.

South Mount Beacon / Breakneck Ridge / Bull Hill is a large, upland block of the park in the City of Beacon and Town of Fishkill, Dutchess County, and the Town of Philipstown and the village of Nelsonville, Putnam County. This area of over 4,400 acres contains an extensive trail system, informal parking areas along Route 9D, the former University Settlement Camp, the Beacon Reservoir, and several former brickyards west of Route 9D with several underpasses to lands on the shore of the Hudson River. On the north, the park abuts conservation lands held by The Scenic Hudson Land Trust at Fishkill Ridge and Mt. Beacon, and a residential area in the City of Beacon. Along Route 9D, the adjacent uses include mixed residential development, two restaurants, and the Metro North tracks. On the south, the park abuts residential uses and conservation lands owned by the Village of Nelsonville, which provide trail access to the park. The park has long frontage on Fishkill Road from Nelsonville east along Foundry Brook. The northeast portion of the boundary abuts Surprise Lake Camp, which is encumbered by a conservation easement, and a large undeveloped upland parcel containing the east face of Scofield Ridge.

Bannerman's Island is a 6.5 acre island in the Hudson River located in the Town of Fishkill, Dutchess County. The adjacent underwater lands are also owned by OPRHP and include portions of the island's built environment. The adjacent Hudson River supports commercial and recreational uses.

Little Stony Point consists of a 25+ acre peninsula on the Hudson River in the Town of Philipstown, Putnam County. The Hudson River, Route 9D and the Metro North Railroad tracks form the boundaries. A one lane bridge over the railroad provides access from Route 9D. Little Stony Point is situated at the northern entrance to the Village of Cold Spring and directly across the river from Storm King Mountain State Park.

Dockside is a 6.4 acre parcel on the Hudson River in the Village of Cold Spring, Putnam County. It is located west of the Metro North tracks near Village-owned portions of the waterfront. The property is located in the heart of the community with access provided by village streets. The adjacent land uses are residential, commercial and recreational.

Connecticut Camps consists of 17.5 acres straddling the Foundry Brook in the Town of Philipstown and Village of Nelsonville. The area is strongly associated with a Revolutionary War encampment.

Constitution Marsh is a 278 acre tidal marsh in the Town of Philipstown, Putnam County. It is located inside the Metro North rail lines and connected to the Hudson River by railroad culverts. Conservation lands of the National Audubon Society, The Scenic Hudson Land Trust (Foundry Cove), Boscobel Restorations and West Point Military Academy (Constitution Island) are immediately adjacent or close by. The property is accessed off Indian Brook Road, which connects the Marsh to Indian Brook Falls.

Indian Brook Falls is a 3.9 acre parcel in the Town of Philipstown, Putnam County containing a waterfall and a portion of the Indian Brook slightly upstream from Constitution Marsh. Access is provided by Indian Brook Road off Route 9D. Adjacent land uses are primarily low density residential.

North Redoubt is a Revolutionary War fortification adjacent to Philipse Brook Road in the Town of Philipstown, Putnam County. The 18.4 acre site has a trail to the summit and provides views of the Hudson River. Other conservation lands are located nearby on Route 9D and to the south at the Garrison School Forest. Adjacent land uses include vacant woodlands and low density residential.

North Woods consists of 111 acres on the west side of Route 9 in the Town of Philipstown, Putnam County. It has other frontage on Old West Point Road, a narrow dirt road maintained by the town. The adjacent land use is primarily low density residential, with one edge abutting the Garrison School Forest. The property has potential for linking the North Redoubt with the Osborn Preserve.

Arden Point is a peninsula on the Hudson River in the hamlet of Garrison, Town of Philipstown, Putnam County. Approximately 17 acres lie west of the Metro North railroad with another 21 acres east of the tracks. Access is provided along Lower Station Road and from the Metro North station parking lot at Garrison. A bridge over the railroad provides pedestrian access to the shoreline. Lands to east and south are owned by the Open Space Institute and provide a trail connection between Arden Point and the Osborn Preserve via DEC's Castle Rock Unique Area. A small number of residences form part of the site's east boundary.

Osborn Preserve is 857 acres in the Town of Philipstown, Putnam County with frontage on Route 403, Route 9D and South Mountain Pass. The property contains a network of former carriage roads, equestrian trails, and the Appalachian Trail. Access and parking is provided off Route 9D at DEC's Castle Rock Unique Area. This area is practically surrounded by conservation lands owned by the National Park Service (Appalachian Trail), NYS Department of Environmental Conservation (Castle

Rock Unique Area) and the Open Space Institute. The remainder of the adjacent area consists of low density residential uses with conservation easements held by Hudson Highlands Land Trust, Trust for Public Land and The Scenic Hudson Land Trust.

Anthony's Nose / Harriman Toll House is 716 acres immediately south the Osborn Preserve on the boundary of Westchester and Putnam counties in the towns of Cortlandt and Philipstown. The area includes the Harriman Toll House, the Bear Mountain Overlook on the Bear Mountain Bridge Road (Route 6/202), the Camp Smith Trail, Anthony's Nose, the Appalachian Trail and upland ridges along the county line. It extends west to the Metro North railroad and to a pair of small points on the banks of the Hudson River. Lands of Metro North and the NYS Division of Military & Naval Affairs property (Camp Smith) form large parts of the boundary. On the north, the area abuts residential and conservation parcels along South Mountain Pass. A direct link to the Osborn Preserve area is provided by the National Park Service-owned section of the Appalachian Trail on Canada Hill. The area is directly across the river from Bear Mountain – Harriman State Park and Fort Montgomery State Historic Site.

Annsville Paddlesport Center is a 2.4 acre parcel at the southern tip of the park in the Town of Cortlandt, Westchester County. The property is located on the Annsville Creek at the intersection of Route 9 and Route 6/202 known as Annsville Circle. The site overlooks Peekskill Bay and the west shore of the Hudson River from Dunderberg to High Tor. It is developed for canoe and kayak launching, parking and fishing. Connections by the Town of Cortlandt and the City of Peekskill to the waterfront are in place utilizing the bridge over the Annsville Creek.

See Figure 3 for a map of the land use classifications in the vicinity of the park.

Legal Constraints, Designations and Other Programs

Legal Constraints

Clarence Fahnestock Memorial State Park

- Name Restriction: The deed for the original 2,400 acre gift from the Fahnestock family stipulates that the park be known as “Clarence Fahnestock Memorial Park” (Liber 200, page 099). The name has been applied to all additions to this park.
- Mining and mineral rights: Deeds for park purchases in Putnam County include an exception for the mining and mineral rights held by the heirs of Philipse family. Several unsuccessful attempts were made in the past to acquire these rights.
- Federal funds for land acquisition have been obtained under Title VII of the Housing Act of 1961 and the Land and Water Conservation Fund. L&WCF monies have been expended on park improvement projects. Federal rules for conversion of parkland were applied in the past for exchanges with DOT along the Taconic State Parkway.
- NYC Watershed Regulations apply to a small portion of the park's northeast corner. (West Branch of the Croton Reservoir).
- Trail easements for public access across privately held portions of the former Perkins property (now Glynwood Center) were included in fee purchases from the Open Space Institute.
- Utility Easements granted to NYS E&G for poles and wires serving Taconic Outdoor Education Center south of Indian Brook Road.
- Right of way / Fresh Air Fund: The fee purchase of the former Fresh Air Fund property included a right of way over lands n/f Mayer to East Mountain Road.
- Conservation easements: Three conservation easements are held by OPRHP on adjacent properties: Boy Scouts (1,390 acres), City of Peekskill (596 acres), and Open Space Institute

(131 acres); the rights and restrictions vary with each; all permit some form of public access. None of the park property is encumbered by conservation easements held by others.

- Taxes: State park lands in Putnam County are taxable under the Real Property Tax Law, Section 532(d).

Hudson Highlands State Park Preserve

- Use Restriction: Osborn Preserve. The deed to the State for original gift of 656 acres restricts the use of property to “hiking and equestrian uses only” (Liber 721 page 557). Subsequent acquisitions adjacent to this area of the park have been managed in kind.
- Mining and mineral rights: Deeds for park purchases in Putnam County include an exception for the mining and mineral rights held by the heirs of Philipse family. Several unsuccessful attempts were made in the past to acquire these rights. .
- Federal funds for land acquisition have been obtained under the Land and Water Conservation Fund (Arden Point and Appalachian Trail purchases).
- Viewshed Easement: The property east of the North Redoubt has an easement permitting maintenance of a view (by tree cutting/pruning) on the North Redoubt parcel of the park (Liber 1114, page 204). This right is exercised periodically.
- Scenic Easement: OPRHP acquired the former Evarts property adjacent to the Osborn Preserve subject to a scenic easement held by the National Park Service on 11.95 acres of the property.
- Conservation Easements: The former Angell property on the Westchester-Putnam boundary was acquired subject to a conservation easement held by the Westchester Land Trust. OPRHP holds conservation easements on 465 acres of the Surprise Lake Camp.
- Right of Way: NYC Environmental Protection asserts the right to use the old Surprise Lake Road (Cornish) from Route 9D to the Catskill Aqueduct for access and maintenance of their property. The roadbed was abandoned by DOT and transferred to OPRHP in 1970.
- Right of Way: A right of way for vehicular access and utilities was reserved by the seller of the Evarts property adjacent to the Osborn Preserve.
- Watershed and reservoir: The City of Beacon retains rights to use the Beacon Reservoir property for watershed and water supply purposes and for access to the property across park land in common with others. The reservoir dam is owned by the City of Beacon.
- Railroad: Three bridges cross over the Metro North Railroad which serve the park at Denning’s Point, Little Stony and Arden Point. Maintenance responsibilities differ for each crossing. A grade crossing of the Danbury Secondary is located at Denning’s Point and was upgraded to a public crossing in the past. Changes in the amount of traffic using this grade crossing may require additional crossing protection. Railroad underpasses are found in the Dutchess Junction portion of the park.
- Taxes: State park lands in Putnam County are taxable under the Real Property Tax Law, Section 532(d).

Designations

Clarence Fahnestock Memorial State Park

Bird Conservation Area: Approximately 10,000 acres of the park were designated as a Bird Conservation Area in 2000. See Figure 4A for a map of the BCA.

National Register of Historic Places: The Taconic State Parkway is listed on the National Register and the park is considered an important component of the parkway’s setting. An agreement with the NYS Department of Transportation guides modifications of the Taconic within the park and elsewhere. The Taconic is also a designated Scenic Byway.

The original 3,000 acre portion of the park may be eligible for listing. Nomination of the Appalachian National Scenic Trail to the NR is under consideration by the National Park Service. Buildings constructed during the CCC era throughout the park are either listed or eligible for listing on the National Register. The trail shelter in the Roaring Brook section and the Pelton Pond shelter are illustrated as examples of typical CCC construction in “Park and Recreation Structures”.

Open Space Plan. Fahnestock was listed in New York State’s first (1992) Open Space Conservation Plan as one of the 75 statewide projects “...which deserve immediate conservation attention...” The project description cited the addition of the Hubbard and Perkins to the park as part of an effort to connect Fahnestock and Hudson Highlands. The park has remained a listed priority in all subsequent updates of the Open Space Plan and is listed in the 2009 update as part of the expansive New York Highlands priority project.

Natural Resources: The U.S Forest Service study of the Highlands from Pennsylvania to Connecticut documented the conservation values of the region, including the Fahnestock State Park and Hudson Highlands State Park Preserve. The “Eastern Hudson Highlands” area was recognized as a Conservation Focus Area in the 2002 update of the study.

Hudson Highlands State Park Preserve

Bird Conservation Area: Constitution Marsh was designated as a Bird Conservation Area in 2001. This property has been operated as a wildlife sanctuary by the National Audubon Society since the State’s 1970 acquisition of the marsh. Other portions of the park are currently under consideration for BCA designation. Audubon New York lists the Fahnestock-Hudson Highlands area as an Important Bird Area of New York (2005). See Figure 4B for a map of the BCA.

Scenic Areas of Statewide Significance: The NYS Department of State designated a large portion of Hudson Highlands SP as part of the Hudson Highlands Scenic Area in 1982. The designation extends on both sides of the Hudson River and is divided into numerous sub-units detailing the scenic character and contributing features.

Significant Coastal Fish and Wildlife Habitat: Constitution Marsh, Fishkill Creek and portions of the Hudson River adjacent to the park have been designated under this State program.

National Register of Historic Places: Harriman Toll House, Bannerman’s Island and the South Mount Beacon Fire Observation Tower are individually listed on the NR. The entire park is located within the federally-designated Hudson River National Heritage Area. The University Settlement Camp property is considered eligible for NR listing. Additional evaluation of the former Cornish estate in the Breakneck Brook area is recommended. Multiple sites throughout the park are recognized for archeological significance and as Revolutionary War sites.

Partnerships

- The Friends of Fahnestock and Hudson Highlands State Parks is a not-for-profit organization formed in 2007 to support the stewardship of the park’s natural and historic resources, as well as educational and recreational opportunities for the public.
- Appalachian Trail. Nine parties cooperate on the management of the Appalachian National Scenic Trail under a Memorandum of Understanding. Partners include the National Park Service, Appalachian Trail Conservancy, New York New Jersey Trail Conference, and OPRHP. The AT crosses parts of both parks.
- Bannerman Castle Trust operates Bannerman’s Island under a Cooperative Agreement.
- Beacon Institute occupies two buildings at Denning’s Point under an Operation & Maintenance (O&M) agreement.

- Camp Smith, NYS Division of Military & Naval, owns substantial acreage adjacent to Hudson Highlands and granted a trail easement for the “Camp Smith Trail” between the Harriman Toll House and Anthony’s Nose. The military road extending from Camp Smith north to South Mountain Pass passes through the park. The facility shares a common boundary of several miles with Hudson Highlands.
- Constitution Marsh is managed by the Audubon Society as a wildlife sanctuary under a revocable permit in place since 1970. The OPRHP property is entirely within the Hudson River and has no adjacent upland area. Adjacent uplands, including the Audubon field station, are owned by Audubon. Audubon provides significant environmental education programs and natural resource management.
- City of Beacon operates a 50 acre portion of the former University Settlement Camp property under O & M agreement, which could include overnight use and access to the Hudson highlands trail system. The city operates the Klara Sauer Trail (including the segment crossing Denning’s Point) and Scenic Hudson’s Madam Brett Park, and has been working on extending the trail from Denning’s Point to Madam Brett Park. The establishment of a crossing of the Fishkill Creek to connect Denning’s Point to the mountain will require city cooperation. The City also retains its rights regarding the Beacon Reservoir lands which are now part of the park.
- Town of Cortlandt operates the Harriman Toll House as a tourist information center under a Cooperative Agreement. The parking serves as a trailhead for the Camp Smith Trail.
- Town of Fishkill operates a 25 acre portion of Hudson Highlands as Dutchess Junction Park under an O&M agreement. This includes a small pond and dam.
- Glynwood Center occupies 220+/- of the former Perkins estate now owned by Open Space Institute which is surrounded by Fahnestock. Hiking trails connect to Glynwood and pass through it under easements included in the purchase of outlying former Perkins lands.
- Open Space Institute owns the 131 acre former Garrison Investments property and conveyed a conservation easement to OPRHP. The easement permits public access and OSI has established a trail system to facilitate this use. The open portions of the property are managed by Glynwood Center under agreement with OSI for agricultural purposes.
- Surprise Lake Camp operates a 100 year old summer camp on 465 acres adjacent to Hudson Highlands which is encumbered by conservation easements held by OPRHP. The terms of the easements vary but generally limit new construction and permit public use of a trail on the southeast portion. Surprise Lake Camp coordinates its activities within the easement areas with wildlife protection efforts and assists with park management by providing alternate access.
- Hudson River Greenway Trail includes segments of trails throughout Hudson Highlands SP. Several portions of the park are components of the Water Trail.
- The Department of Environmental Conservation owns and manages Castle Rock Unique Area where the DEC parking area serves as access to the adjacent Osborn Preserve. The Pudding Street and California Hill Multiple Use Areas are adjacent to the east boundary of Fahnestock and provide access to the Roaring Brook section of Fahnestock. DEC provides fish stocking at Fahnestock and assists with identification of hunting opportunities.
- The NYC Environmental Protection owns significant properties on the east boundary of Fahnestock for watershed protection. Some properties are opened for various recreational uses, under permit, including hiking, fishing and hunting. NYC also owns the Catskill Aqueduct which crosses Hudson Highlands SP. Agreements to formalize trail crossings and parking are needed.
- Manitoga provides trail connections to Appalachian Trail and Osborn Preserve.
- Town of Philipstown is working on trail system that links multiple OPRHP parcels with other conservation lands.

- The Little Stony Point Citizens Association manages activities and maintains Little Stony Point through a cooperative agreement with OPRHP. This agreement has expired, however.
- New York New Jersey Trail Conference has constructed and maintained hiking trails in both parks for many years and contributes thousands of volunteer hours each year to maintain and improve the trail system.
- Scenic Hudson Land Trust owns and operates Mount Beacon Park and Fishkill Ridge Conservation Area with trailheads and trails directly related to Hudson Highlands, It also owns Long Dock in Beacon which is crossed by Klara Sauer Trail, Madam Brett Park east of Denning's Point and extending up the Fishkill Creek beyond the Tioronda Bridge, and other properties near Hudson Highlands.
- Garrison School Forest is owned and managed by school district and has trails connecting to the "North Woods" area of Hudson Highlands.
- Metro North Railroad has maintenance responsibilities for several bridges and underpass between the Hudson River and the parklands. Lands owned by the railroad along Route 9D are potential areas for safe parking at trailheads.
- Hudson Highlands Land Trust, Open Space Institute and the Scenic Hudson Land Trust all own conservation land or easements in close proximity to the parks and acquire land for conservation purposes.

Chapter 3: Environmental Setting

Physical Resources

Surficial Geology and Soils – Fahnestock and Hudson Highlands

Most of the surficial geology at Fahnestock consists of poorly sorted till ranging from boulders to silt which was originally deposited beneath glacial ice. This overlies the bedrock and varies in depth from only centimeters on the summits to around 50 meters on low slopes and level areas (Evans *et al.* 2001). There are also large areas of bedrock outcroppings and Kame deposits. These glacial deposits consist of coarse to fine gravel and/or sand and vary in thickness from 10-30 meters. See Figure 5A for a soils map of Fahnestock.

At Hudson Highlands, the primary soil types within the park are Chatfield-Hollis-Rock Outcrop (44%) Charlton-Chatfield complex (21.8%) and Hollis- Rock outcrop complex (12%). Chatfield - Hollis-Rock soils were formed in glacial till and are moderately deep and shallow, well drained and somewhat excessively drained, medium textured and moderately coarse textured, with areas of bedrock outcrops. The landscape includes steep slopes and complex topography. The shallow depth to bedrock, the rock outcrops, and the slope limit the potential for development in the Chatfield-Hollis-Rock outcrop unit. See Figures 5B and 5C for maps of the soils at Hudson Highlands.

Bedrock Geology – Fahnestock and Hudson Highlands

The parks are located within a geologic region known as the Highlands Province (USGS 2003). This province is subdivided into several sections. The Reading Prong extends from southeastern Pennsylvania and runs into the Ramapo Mountains or New Jersey Highlands which in turn continues into southeastern New York where it is called the Hudson Highlands.

The USGS describes the geologic history of this area as “exceedingly complicated and many aspects are not clearly resolved.” The mixed igneous and metamorphic formations in the Highlands date back to the late Precambrian and early Paleozoic age and are some of the oldest rocks known dating back more than a billion years. These ancient rocks run in northeast-trending belts of gneiss, inter-layered quartzite and marble and have been subject to several periods of uplift, folding and faulting with alternating periods of erosion (NYS DEC 1990).

It is thought that the ancient Hudson River probably ran west of its current course through the Appalachian Valley and sometime before 7 million years ago it cut a course through the Highlands. About 20,000 years ago glaciations cut through the very resistant bedrock gouging and deepening the river, cutting a deep, steep, more angular channel through the Highlands (NYS DEC 1990).

The ruggedness of the Highlands that resulted from the effects of the Pleistocene glaciations produced the spectacularly scenic characteristics of both parks. The geology of the Highlands has played a significant role in the early history of New York especially the American Revolution and the economic development of the area. The bedrock includes an abundance of rich iron ore, magnetite, which is magnetic. This ore was mined during the 18th and 19th centuries (Lenik 1996).

See Figure 6 for a bedrock geology map of both parks.

Topography - Fahnestock and Hudson Highlands

Fahnestock is characterized by parallel ridges and hills that trend in a southwest to northeast direction. Steep slopes are often found on the southeast and northwest aspects of some of these ridges. Elevations range from approximately 400 feet in the lowest area of the park along Clove

Creek in the vicinity of U.S. Route 9 to a maximum of over 1300 feet on a ridge west of Canopus Lake. The majority of the park is at elevations greater than 600 feet. See Figure 7A for a slope map of Fahnestock.

Hudson Highlands is also characterized by parallel ridges and hills trending in a southwest to northeast direction. The slopes in Hudson Highlands are generally greater with more topographic relief than in Fahnestock. As in Fahnestock, the steepest slopes are often found on the southeast and northwest aspects of the ridges, but there are additional steep slopes found on southwest aspects at Anthony's Nose and Manitou Mountain in the southern portion of the park, as well as along Bull Hill and Breakneck Ridge in the park's northern section. Elevations range from sea level at Constitution Marsh and other Hudson River shoreline areas of the park to a maximum of 1611 feet at South Beacon Mountain. See Figures 7B and 7C for slope maps of Hudson Highlands.

Air

The park is located within the New York, New Jersey, Connecticut, and Long Island non-attainment area for failing to meet the national ambient air quality standard for air pollutants, specifically, ozone (DEC, 2010).

Water Resources

Both parks contain numerous water resources from tidal marshes along the Hudson River to highbush blueberry bog thickets on mountain plateaus. These water resources contribute significantly to the region's biodiversity by providing essential habitat for a myriad of species, from anadromous river herring (*Alosa* spp.) in Melzingah Brook to rare seepage breeding dragonflies along Foundry and Philipse Brooks.

Watersheds - Fahnestock and Hudson Highlands

Watersheds within both parks were identified by using the US Geological Survey's (USGS) hydrologic unit code system (HUC). This is a standardized watershed classification system developed by USGS in the mid-1970s that identifies watershed boundaries in a hierarchy by size.

Fahnestock is generally located within the Lower Hudson watershed area and is positioned along the upper elevation limits along this section of the Highlands and, thus, actually contains the headwaters of five sub-watershed units (see Figure 8A for a water resources map). These units are: Castle Point to Fishkill; Fishkill to Bear Mountain Bridge; Bear Mountain Bridge to Annsville; Annsville to Croton River; and Upper Croton. The protected open space within the park provides important protection for these watershed areas. The headwaters of some of these streams, such as Clove Creek, Foundry Brook, and the Croton River (a NYC water supply source), are associated with downstream water supplies, including Peekskill's Wiccopee Reservoir, and this further emphasizes the significance of the park as a watershed protection area.

Hudson Highlands is within the Lower Hudson watershed and contains only two sub-watershed units (see Figures 8B and 8C for a map of the water resources at Hudson Highlands); Castle Point to Fishkill and Fishkill to Bear Mountain Bridge. The park also serves as a watershed protection area for water supply reservoirs for the City of Beacon at Mount Beacon and Melzingah and also for Foundry Brook which supplies the Village of Cold Spring water supply.

Lakes and Ponds

Fahnestock

There are eight lakes and ponds located wholly within Fahnestock and two that are partially located within the park's boundaries. All are man-made lakes constructed either prior to the park's beginning or early in its history. NY State Parks has conducted water quality monitoring of six of the lakes in Fahnestock. Figure 8A shows the lakes, ponds and streams within Fahnestock.

Canopus Lake

Canopus Lake is a 104-acre lake that is a very important recreational resource for the park as it is used for swimming, boating, and fishing. A section of the lake's shoreline is directly adjacent to Route 301 and the Appalachian Trail and is a very scenic resource to drivers and hikers.

The lake was created in the mid-1930s by the Civilian Conservation Corps (CCC) with the construction of a dam at the southern end. Route 301 was relocated on top of this dam. In the 1970's, a swimming beach was constructed on the northern end of Canopus Lake. This was undertaken by the placement of another dam structure near the midpoint of the lake which would serve to raise the water level in the north end. This structure was to have included pumps to increase circulation, however these were never installed. A large beach and bathhouse was constructed on the northeast side of "Upper Canopus" to complete the project.

The beach is monitored weekly during the swimming season and has good water quality. The beach area is significantly impacted by excessive aquatic plants, particularly Eurasian water milfoil (*Myriophyllum spicatum*) as well as algae blooms (diatoms and blue green species).

The southern portion of Canopus Lake, or "Lower Canopus", has a maximum depth of 15 feet. It also has abundant aquatic plants including the invasive Eurasian water milfoil. This area of the lake is popular for fishing and boating and the level of biological productivity here is more compatible with these uses. A peninsula west of the boat rental area has some erosion occurring due to the intensive use of this area for shoreline fishing. Fish species found in the lake include largemouth bass (*Micropterus salmoides*), chain pickerel (*Esox niger*), yellow perch (*Perca flavescens*), black crappie (*Pomoxis nigromaculatus*), and common carp (*Cyprinus carpio*).

Pelton Pond

This is a 9-acre pond located adjacent to the park's picnic area and campground. It is quite deep at 50 feet and is popular for shoreline fishing. It is stocked with rainbow trout (*Oncorhynchus mykiss*) annually. It was used as the park's water supply until 2009.

Duck Pond

This is a 13-acre pond located at the Taconic Outdoor Education Center. It is a relatively shallow lake (maximum depth is 8 feet) and is used for swimming and boating. It supports a high level of aquatic vegetation and there is an occasional leech problem at the beach.

John Allen Pond

This is an approximately 17-acre pond that is used for fishing and bird-watching, although only accessible by a short trail from Sunken Mine Road. It supports a dense native aquatic plant population. Fish species found here include largemouth bass, chain pickerel, yellow perch, pumpkinseed sunfish (*Lepomis gibbosus*), and golden shiner (*Notemigonus crysoleucas*).

During the summer of 2009, the main dam began to leak and was breached by park staff to avoid a catastrophic failure. This resulted in a lowered lake level and new shoreline configuration by exposing a portion of the lake’s bottom. The exposed area was seeded with annual rye grass in 2009 to control erosion and inhibit invasive species.

Stillwater Lake

Accessible from the Taconic State Parkway, Stillwater Lake is 55 acres in size and relatively deep (30 feet maximum depth) with low amounts of aquatic vegetation and biological productivity. It is used for only for fishing and is stocked with rainbow trout and brown trout (*Salmo trutta*) annually.

Beaver Pond, Hidden Pond and Wiccopee Pond

These are small ponds that are accessed only by trail. Beaver Pond is located in the middle of Fahnestock and has few aquatic plants and occasional algae blooms, while Hidden Pond, located just south of Beaver Pond, was essentially a wetland, as it had been extremely shallow with an abundant aquatic plant population. In 2009, beaver returned to Hidden Pond, dammed the outlet, and revert it back to a pond environment. Located in the northern end of the park, Wiccopee Pond has not been surveyed to date. It is used by park patrons for fishing and the existing dam was recently upgraded.

Perkins Lake and Jordan Pond

These two water bodies are partially within the park and partially within property owned by the Open Space Institute. To date they have not been monitored by State Parks.

Hudson Highlands

There are three reservoirs located within the park, or surrounded by the park, that are drinking water supplies for the City of Beacon; the Beacon Reservoir is within the park and the city retains watershed rights; the two lakes known as the Melzingah Reservoir are surrounded by the park. The park provides important watershed protection for these water bodies. The Breakneck Pond, also known as Cornish Pond, is small pond within the park between Breakneck Ridge and Bull Hill. The dam on this lake is in poor condition and is to be decommissioned in the near future. The pond will then revert back to a stream flowing through a wetland and forested area. Refer to Figures 8B and 8C for the water resources of Hudson Highlands.

Streams and Rivers - Fahnestock and Hudson Highlands

Fahnestock contains over 36 miles of streams as shown in the table below. With the exception of Peekskill Hollow Creek all of the streams’ headwaters begin in or near the park. The park provides a critical watershed protection function for these streams, especially those such as the Clove Creek and the West Branch of the Croton River which are associated with downstream drinking water supplies. Several are tributaries to the Fishkill Creek and Peekskill Hollow Creek which are two significant tributaries of the Hudson River.

Table 2 - Streams within Clarence Fahnestock Memorial State Park

Stream Name	Length of stream within park (miles)
Unnamed Streams	14.9
Bull Creek	2.5
Canopus Creek	3.54
Clove Creek	3.91
Indian Brook	0.43
Peekskill Hollow Creek	0.014
Roaring Brook	1.27

Sand Spring Brook	0.66
Trout Creek	2.32
West Branch Croton River	0.14
West Branch	0.52
Wiccopee Brook	1.3
Wiccopee Creek	2.25
Total length	36.07

Hudson Highlands also provides important stream corridor and watershed protection function for 16 streams (Table 3), totaling over 15 miles within the park. Gordon’s Brook and Foundry Brook are associated with drinking water supplies. Denning’s Point is directly adjacent to the mouth of the Fishkill Creek which is a designated Significant Coastal Habitat.

The Catskill Aqueduct, part of the New York City (NYC) water supply system, is also located on a right-of-way that runs through several portions the park.

Table 3 - Streams within Hudson Highlands State Park Preserve

Stream Name	Length of stream within park (miles)
Arden Brook	0.11
Breakneck Brook	1.5
Broccy Creek	0.32
Cascade Brook	1.5
Clove Creek	0.76
Copper Creek Mine	0.3
Dry Brook	0.64
Fishkill Creek	0.43
Foundry Brook	1.9
Foundry Cove	0.09
Gordon’s Brook	1.35
Indian Brook	0.214
Melzingah Brook	0.9
Philipse Brook	0.1
Squirrel Hollow	0.43
Unnamed Stream	5.08
Total length	15.624

Hudson River - Hudson Highlands has extensive shoreline areas along the Hudson River; approximately nine miles, as shown on Figures 8B and 8C. From former brickyards at Denning’s Point and Hammond Point at the northern end of the park, to the presence of the freight and Metro-North commuter railroad along the entire shoreline of the park, and the past quarrying operations at Little Stony Point, the majority of the Hudson River shoreline here has had a great history of modification and use. Other than the existing railroad and resulting changes to the shoreline that still exist today, the majority of the areas formerly used by industry have reverted back to natural or semi-natural conditions. The shoreline areas at Denning’s Point, Little Stony Point, and Arden Point are popular with park patrons, with striped bass fishing being a very popular activity at Denning’s Point. Constitution Marsh is a large Hudson River tidal marsh and another point of public access as discussed in more detail below.

Wetlands

Fahnestock

Fahnestock has 806 acres of wetlands identified by the United States Fish and Wildlife Service National Wetland Inventory (NWI) and 542 acres of wetlands regulated by the New York State Department of Environmental Conservation (NYS DEC). The park's wetlands are shown in Figure 9A. The New York Natural Heritage Program (NYNHP) ecological community survey work identified five different types of wetland communities within the park. These are:

- Red Maple-Hardwood Swamp;
- Reedgrass/Purple Loosestrife Marsh;
- Sedge Meadow/Shallow Emergent Marsh;
- Shallow Emergent Marsh;
- Shallow Emergent Marsh//Reedgrass-Purple Loosestrife Marsh;
- Shrub Swamp;
- Highbush Blueberry Bog Thicket

As noted by the community names the sedge meadow and shallow emergent marsh areas have been heavily impacted by invasive species such as Common Reed (reedgrass) (*Phragmites australis*) and Purple Loosestrife (*Lythrum salicaria*).

The park contains an extensive Highbush Blueberry Bog Thicket and vernal pool complex. The vernal pools are seasonally wet, containing water in the spring and fall. Water levels in the Highbush Blueberry Bog thickets also vary seasonally and they do sometimes dry out during the summer months. These intermittent wetlands provide important habitat for amphibians and invertebrates that are uniquely adapted to these habitats. Due to the small size of most vernal pools and the extent of this wetland complex within Fahnestock, many have not been visited and recorded, although the location of several verified vernal pools and Highbush Blueberry Bog Thickets are shown on the ecological community map (Figure 10A).

Hudson Highlands

Hudson Highlands contains 669 acres of NWI wetlands and 266 acres of wetlands regulated by NYS DEC. There are a wide variety of wetland community types in Hudson Highlands State Park Preserve, primarily due to the presence of the Hudson River. They include tidal marshes such as Constitution Marsh, as well as tidal mudflats, freshwater marshes, upland swamps, sedge meadows, and vernal pools. The park's wetlands are shown in Figures 9B and 9C. The NYNHP survey identified eight different types of wetland communities within the park. These are:

- Brackish Intertidal Mudflats;
- Brackish Tidal Marsh;
- Hemlock-Hardwood Swamp
- Highbush Blueberry Bog Thicket
- Red Maple-Hardwood Swamp
- Reedgrass/Purple Loosestrife Marsh
- Sedge Meadow
- Vernal Pool

Constitution Marsh – This 270-acre brackish tidal marsh and associated wooded upland area have been managed by Audubon since 1970 through a lease with OPRHP. It is a very important wetland

resource within the park as it is not only one of the largest undeveloped tidal wetlands on the Hudson River, but it also contains numerous rare plants and animals. It serves as both an anadromous fish concentration area and a winter waterfowl concentration area. The Marsh was designated an Important Bird Area in 1997 and a NY Bird Conservation Area in 2000. Additionally, it has been identified as a Significant Biodiversity Area in the Hudson Valley (Howard *et al.* 2001).

Breeding birds of interest include Least Bittern, Virginia Rail, Marsh Wren, and Swamp Sparrow. Fall concentrations of swallows typically number in the tens of thousands when they use the marsh as a migratory staging area, although they seem to have declined in recent years. Significant numbers of American Black Ducks, Mallards, Wood Ducks and other waterfowl migrate through the marsh during the fall and Bald Eagles over-winter at the site. The marsh also supports state-listed and rare vegetation, and also includes several ecological community types that are considered rare in the state.

Nonetheless, the marsh has been impacted severely in the past by construction of the adjacent railroad, by cadmium and nickel contamination from a former battery plant situated near the north end of the marsh and by channelization during the 19th century. It is under constant threat by invasive plants, particularly Phragmites.

Natural Resources

Fahnestock and Hudson Highlands each contain exemplary natural resources that stand out not only in the State Park system, but in New York State, as well. Both parks are contained within the Hudson Highlands ecozone of the state (Reschke 1990), which is a 520 square mile region (Anderle and Carroll 1988) stretching across southern New York from Connecticut southwest across the Hudson River to the New Jersey border. This region contains oak as the dominant natural vegetation, with less abundant northern hardwoods. The complex igneous and metamorphic rocks underlying the region contain extensive folds and faults and shallow acidic soils, resulting in steep, rough, and rocky terrain (Anderle and Carroll 1988) that is characteristic of the two parks, especially Hudson Highlands State Park Preserve.

Given the variation in elevation, rugged terrain, latitudinal location within the state that lends to an overlap in the northern and southern ranges of many species of flora and fauna, and moderation of the climate along the Hudson River corridor, the conditions are set for these parks to support highly diverse ecological communities with an even greater diversity of associated plants and animals.

Of great significance is the fact that both parks protect large unfragmented forests in the Hudson Highlands ecozone; a region that is subject to intense development pressures for industry and private homes (Anderle and Carroll 1988). When combined with various associated protected lands, the parks contribute significantly to a large forested corridor on the east side of the Hudson River. This forested corridor continues to the Hudson River “connecting” to additional parklands (primarily Bear Mountain, Harriman, Sterling Forest, and Storm King State Parks in the Palisades Region) on the west side of the Hudson River that continue into New Jersey. Large corridors such as this are important for migratory birds such as neo-tropical migrants and wide-ranging species that need large intact habitats.



View of the NY Hudson Highlands Region (HREP 2010)

Further information on the ecological communities and species found in the parks is summarized below.

Ecological Communities

Ecological communities are defined as both natural and human-influenced, or cultural, ecological communities (Reschke 1990, Edinger *et al.* 2002). As part of biodiversity inventories in State Parks, staff from the NYNHP characterized and mapped all of the natural and cultural community types in Fahnestock and Hudson Highlands, not including easements. These surveys identified 21 and 30 ecological community types in Fahnestock and Hudson Highlands respectively. The majority of both parks consist of natural communities, with approximately 2 % to 3% of Hudson Highlands and Fahnestock categorized as developed or cultural, respectively. See Figures 10A, 10B and 10C for maps of the ecological communities of the parks. A listing of these communities and their sizes is found in Appendix C.

Significant Ecological Communities

“Significant natural communities”, as defined by NYNHP, are known locations of rare natural community types (e.g., Brackish Intertidal Mudflats at Constitution Marsh), as well as the best known examples of common natural community types (e.g., Appalachian Oak-Hickory Forest in both parks). Five of the ecological community types in Fahnestock and eleven of the ecological community types in Hudson Highlands are particularly noteworthy and are considered significant occurrences of these community types. All are considered “excellent” to “good” quality occurrences, based on several factors including size, condition, and landscape context. Within the eleven significant community types, the matrix Chestnut Oak Forest in Fahnestock is considered to be one of the largest forests of this type in New York State, as well as the largest of its type on the east side of the Hudson River in NY. See Figures 11A, 11B and 11C for maps of the significant ecological communities. The significant communities are italicized and shown in bold in Appendix C.

Flora

As part of the biodiversity inventories of both Fahnestock and Hudson Highlands, rare plants were recorded and general plant lists for each of the significant ecological community types in the parks

were compiled. Additional flora documentation was recorded during a biological survey of Denning's Point, in Hudson Highlands State Park Preserve, by Hudsonia Ltd. staff in 2008 (Hartwig *et al.* 2009).

Appendix D provides a listing of known and potential plants for the significant ecological communities of both parks. Species highlighted in bold are currently documented rare plants found in the parks.

Rare or Threatened Plants

The NYNHP reports identify a single NY State Endangered plant population, Narrow-leaved Sedge (*Carex amphibola* var. *amphibola*), in Fahnestock (Evans *et al.* 2001a; NYNHP 2004a, Smith and Lundgren 2010b). This is significant, as it is one of only three known populations in NY State. It is possible that additional plants may be found in the surrounding area with further survey effort.

Nine rare plant populations were identified in Hudson Highlands State Park Preserve including one NY State Endangered species, Water Pygmyweed (*Crassula aquatica*). Four additional plant species considered rare to uncommon and regionally scarce were also identified in both surveys.

Appendix D contains a listing of the rare plants and their state status for Fahnestock State Park and Hudson Highlands State Park Preserve.

Fauna

The two parks contain a diverse assemblage of fauna characteristic of the Highlands region and include both common and rare species. Fauna lists, based on information from the OPRHP Regional Biologist, NYNHP reports (Evans *et al.* 2001a, 2001b; NYNHP 2004a, 2004b, Smith and Lundgren 2010a, 2010b), Hudsonia, Ltd. biological surveys of Denning's Point (Hartwig *et al.* 2009), the New York State Breeding Bird Atlas (McGowan and Corwin 2008), and the New York State Amphibian and Reptile Atlas (NYS DEC 2009), are summarized in Appendix F.

Mammals

At least 32 species of mammals are present in both parks, but additional species are undoubtedly present. The New England Cottontail (*Sylvilagus transitionalis*), a native species of cottontail found east of the Hudson River and a candidate for Federal listing, is known from both parks. The large forested landscapes in these parks also provide habitat for wide-ranging animals that require large tracts of habitat, such as the bobcat (*Lynx rufus*) and timber rattlesnake (*Crotalus horridus*). Other wide ranging animals that are also occasionally reported in the parks include the American Black Bear (*Ursus americanus*) and Fisher (*Martes pennanti*).

Heavy browsing by white-tailed deer (*Odocoileus virginianus*) have been observed in both parks (Smith and Lundgren 2010b; NYS DEC pers. comm. 2010). Overabundant deer populations have been shown to have many impacts on forest ecosystems including changes in composition of both plant and animal species, the loss of forest understory, a reduction in forest regeneration, and an increase in the number of invasive plants (Cote *et al.* 2004, Rawinski, 2008). Deer have also been linked to an increase in the risk of tick-borne diseases such as Lyme disease (Cote *et al.* 2004).

Birds

Birds of similar species composition are expected to occur in the upland habitats of both parks. Additionally, Hudson Highlands supports a diverse assembly of birds in its tidal wetland habitats, particularly Constitution Marsh, as well as important bald eagle (*Haliaeetus leucocephalus*) wintering habitat. Over 58 species of birds were reported for Denning's Point alone in 2008, including 38 species confirmed (9) or likely (29) to breed there (Hartwig *et al.* 2009).

In an initial “Checklist of Birds at Fahnestock State Park” published in 1995, 162 species of birds were reported at Fahnestock State Park, with at least 72 species documented as breeding in the park.

Because the Fahnestock bird checklist is somewhat outdated and, although numerous bird species have been reported for Hudson Highlands, a checklist for Hudson Highlands does not exist, there is a need to update the checklist for Fahnestock and create a new checklist for Hudson Highlands. To create an initial list for both parks, data from the most recent New York State Breeding Bird Atlas (BBA) completed between 2000-2005 (McGowan and Corwin 2008), and the Fahnestock 1995 checklist were combined to produce a list of species known or likely to be present at both parks.

The BBA analysis resulted in 110 species reported in BBA blocks that cover Fahnestock and 125 species in BBA blocks that cover Hudson Highlands. Of these, confirmed breeding was documented for 71 species in Fahnestock and 88 species in Hudson Highlands. Species reported as likely to be breeding (probable breeding status) include 25 additional species in Fahnestock and 24 additional species in Hudson Highlands (McGowan and Corwin 2008).

A majority of Fahnestock is designated as a Bird Conservation Area (BCA). The BCA supports a representative community of breeding birds that prefer mature hardwood forests, as well as some marsh and water-dependent bird species. The two primary BCA criteria used to designate the park included 1) Diverse Species Concentration Site; and 2) Species at Risk Site.

Constitution Marsh in Hudson Highlands is also a designated BCA. The key BCA criteria used to designate this site include: 1) Waterfowl Concentration Site; 2) Migratory Concentration Site; 3) Diverse Species Concentration Site; 4) Individual Species Concentration Site and; 5) Species at Risk Site. The marsh is an important wetland supporting a high diversity of birds (200 species have been identified here). Fall swallow concentrations at the site typically number in the vicinity of 20,000, but can reach highs of 100,000 individual birds (NYS DEC 2010).

A list of known and likely birds for Fahnestock and Hudson Highlands is found in Appendix F.

Reptiles and Amphibians

According to OPRHP Regional Biologist information, data from the New York State Amphibian and Reptile Atlas Project (NYSDEC 2008), and data from Hudsonia Ltd. staff, at least 15 species of amphibians and 20 species of reptiles are found in Fahnestock and Hudson Highlands combined.

Fish

Fish found in Constitution Marsh and adjacent areas include a diverse assemblage of freshwater and marine species that are characteristic of the brackish Hudson River tidal communities and associated freshwater tributaries. Constitution Marsh also serves as important nursery habitat for juvenile fish, including several marine species. At least 43 species have been recorded in Constitution Marsh and adjacent waters.

Freshwater fish present in other park streams, lakes, and ponds include at least 12 species, but the actual number of species present is likely to be higher. Rainbow trout and brown trout are stocked by NYS DEC at Stillwater Lake and Pelton Pond in Fahnestock and brown trout may be naturalized in some streams such as Clove Creek in Hudson Highlands.

A list of fish documented within the parks is found in Appendix E. Rare species are highlighted in bold.

Invertebrates

Invertebrates found in Constitution Marsh and other suitable Hudson River habitats include at least five species of crustaceans (three crabs and two shrimp species). The parks also provide habitat for

many species of odonates (dragonflies and damselflies), as well as for moths, butterflies, and skippers. Numerous other invertebrate species also exist in the parks.

A partial list of invertebrates documented or expected within the parks is found in Appendix E.

Rare, Threatened, and Endangered Fauna

The NYNHP reports and subsequent surveys by the Regional Biologist identified at least five populations of five rare animals in Clarence Fahnestock Memorial State Park and at least 19 populations of 11 rare animals in Hudson Highlands State Park Preserve. These species include two mammals, four birds, three reptiles, two fish, and two odonates.

Appendix E contains a listing of the rare animals and their state status for Fahnestock and Hudson Highlands.

Invasive Species

Under state law adopted in 2007 and amended in 2008 (Environmental Conservation Law Article 9, Title 17), “invasive species” means a species that is:

- (a) non-native to the ecosystem under consideration; and
- (b) their introduction causes or is likely to cause economic or environmental harm or harm to human health.

The law also indicates that harm must significantly outweigh any benefits for a species to be considered invasive.

There are many invasive plant and animal species impacting the native ecological communities of both parks. Park management has recognized the need to control invasive plants and has supported volunteers, including the Lower Hudson PRISM, as well as staff to perform manual removals as possible within operating constraints. Invasive species are viewed as a management issue and will be addressed in a subsequent section of the plan.

Significant Coastal Fish and Wildlife Habitat

Hudson Highlands State Park Preserve includes or borders three areas that have been designated by the NY Department of State Coastal Management Program as significant coastal fish and wildlife habitat areas. They are: the Fishkill Creek, Hudson River Mile 44-56, and Constitution Marsh.

The following is a brief description of the significance of these areas taken from the “Coastal Fish and Wildlife Habitat Rating Form” (NY Dept of State 1993) and provides the basis for this designation and specific information regarding the fish and wildlife resources within these areas.

Fishkill Creek: This habitat area includes the 80 acre shallow bay at the mouth of the creek adjacent to Denning’s Point as well as the Point itself. This area is important for fish spawning and as a productive feeding habitat for various wildlife species including migrating ospreys and wintering bald eagles.

Hudson River Mile 44-56: An area that is considered unique because it includes a long stretch of the river channel that is deep and narrow with strong currents. This makes it important habitat for anadromous fishes, especially striped bass and white perch. The deep areas in this section are used as migration routes and possible nursery areas for Atlantic sturgeon and shortnose sturgeon. In addition the variety of marine species that are drawn here as the salt front moves through this area also attracts recreational fishing. During the winter it is one of the few areas of the river that rarely freezes and thus provides dependable feeding grounds for wintering bald eagles.

Constitution Marsh: This is part of Hudson Highland State Park and its ecological significance has been discussed elsewhere in this plan. Essentially it is unique due to its size and abundance of rare species and is a popular destination for birders.

In addition, Iona Island Marsh is a designated significant coastal habitat that is directly across the river from the parks' Bear Mountain Overlook pull-off area. This marsh provides outstanding birding opportunities from the overlook. See Figure 12 for a map of the coastal resources of the park.

Historic Resources

History of the Parks

The history of human occupation at Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve spans over 8,000 years and encompasses three major periods in the development of the Hudson Valley. The first period lasted more than 4,000 years and is associated with the history of indigenous peoples of North America, especially during the Paleo-Indian, Archaic, Transitional, and Woodland Periods. Though not much is known about cultural activities during the Paleo-Indian period, it is generally accepted that the region encompassing the parks was first inhabited by humans at approximately 8,000 BC (Funk 1972, 1976; Ritchie 1980).

During this time, many Algonquin tribes or cultural groups occupied the broad expanse of territory that includes Manhattan, Long Island and the Hudson Valley. It wasn't until the 1600s that European (primarily Dutch and English) Colonists and Native Americans began to interact and colonists purchased land from the Wappinger Indians. This continued and the Wappinger Indians continued to sell land to the colonists, but were greatly impacted by the presence of foreigners. The Wappinger were forced to relocate from lands they had occupied and the colonists introduced diseases to the Indians and many perished.

The Hudson Valley was an area of critical importance during the Revolutionary War for both the Americans and the British. According to the Scenic Area of Statewide Significance report, "The strategic value of the Hudson Highlands was the main reason for the development of the military facilities and its key role as a theater of battle during the Revolutionary War. The landscape offered natural opportunities for protection of the increasingly important commercial use of the Hudson River as a transportation corridor to the interior of the northeastern United States. Two major campaigns for control of the Hudson River were centered on the Hudson Highlands during the war.

The American Revolution and the immediate succeeding years provided a stimulus to settlement and trade in the Highlands. Gradually a pattern of rural activity was established, based around the expansion of the United States Military Academy at West Point, quarrying, shipbuilding and iron manufacturing. The lowlands alongside the Hudson proved viable for farming, and clearing of the landscape continued. Growth concentrated on the lower plains, associated with road connections and ferry crossings, while the uplands remained free of settlement. Cold Spring grew around the West Point Foundry into a thriving industrial village (NYSDOS)."

Small scale mining had been occurring in the area for decades prior to the 1818 establishment of the West Point Foundry. The presence of the foundry provided a demand for iron ore, charcoal to fuel its kilns, and better routes of transportation between the mines and Foundry. Much of the present Fahnestock State Park was cleared in the process and a system of roads and narrow railroads extended throughout the park toward Cold Spring. The Foundry flourished, played a major role in the Civil War, and finally closed in the early 1890s.

The deforested areas, having served their purpose, were typically sold or left to revert to woodland. Some were converted to agriculture and cleared again resulting in miles of stone walls. Large private holdings were assembled by families, including Fahnestock, Perkins, Osborn and Hubbard.

Closer to the Hudson River, the mixture of river landings, agriculture, and industries including brickyards, quarries and foundries, was dramatically altered by the extension of the Hudson River Railroad through Putnam and into Dutchess County in 1851. This changed almost the entire east shore of the river and created a severely limited number of opportunities to reach the river. It increased the speed of travel for passengers and goods, ended the dominance of river-based transportation, and accelerated the development of large estates along the river.

By the turn of the century, water supply also altered the land use of the future parks, with watershed areas and reservoirs established on Mt. Beacon, on the headwaters of the Peekskill Hollow Creek, and on the West Branch of the Croton River.

In 1925 the Taconic State Park Commission (TSPC) was established as part of a plan to create a Statewide system of parks and parkways connecting them in Putnam, Dutchess, Columbia and Rensselaer counties. The parkway was designed to pass through the middle of these counties, starting at a proposed extension of Westchester County's Bronx River Parkway and extending north into the Highlands. The scenic valley of Roaring Brook, just north of Peekskill Hollow Creek, was selected for the ascent. The commission saw an opportunity to both preserve the brook and align the parkway on a 300 acre on a parcel being planned for use as a Boy Scout camp. The property was acquired in 1929 and was known briefly as Roaring Brook State Park. Planning for the remainder of the parkway alignment in Putnam County had identified parts of the 6,000+ acre Fahnestock property as the desirable location for the parkway. In 1930, negotiations between Commission Chairman Franklin Roosevelt and Ernest Fahnestock resulted in a gift of 2,400 acres in memory of Dr. Clarence Fahnestock, the donor's brother, a surgeon who died in WW1. The Roaring Brook property became connected to the Fahnestock property by the parkway and both became known as Clarence Fahnestock Memorial Park.

Work on park improvements at Fahnestock began almost immediately and a few years later benefitted from the establishment of Civilian Conservation Corps camps in the park. The CCC program included the construction of dams at Pelton Pond, Stillwater and Canopus lakes, a downhill ski area, the camping area, Pelton Pond picnic area, comfort stations, shelters, roads, hiking and equestrian trails. The parkway was constructed under a series public works contracts and opened to Route 301 in 1935. The Canopus Beach complex and the Taconic Outdoor Education Center were constructed in the late 1970s. Fahnestock continued to expand and at 14,082 acres (in 2010), it is the largest park in the Taconic Region.

East of Fahnestock, the Highlands extending to the Hudson River had a similar history of land use with a greater occurrence of Native American occupation and use, and substantial hard-rock quarrying and numerous brickyards. The quarry activities had been successfully limited on the west shore and along the Palisades, but continued to expand near Mt. Taurus and Breakneck Mountain in Putnam County. The Hudson River Conservation Society facilitated the beginning of Hudson Highlands State Park Preserve through gifts of 177 acres on the face Breakneck from the Nelson & Whitney families in 1938. These remained as isolated holdings for nearly twenty years while other less rugged land was acquired and developed for public use elsewhere. Consolidated Edison's proposal to build a pumped storage hydro-electric plant on Storm King Mountain in 1962, and a similar proposal by Central Hudson for land it had acquired along the Breakneck Brook, triggered the epic battle in Federal courts pitting scenic preservation against power generation in the Highlands. The Central Hudson proposal for the east bank was quickly withdrawn. In 1967 Governor Nelson Rockefeller announced the establishment of the park and with the financial

assistance of the Jackson Hole Preserve the first 2,500 acres were quickly acquired. The park has expanded north and south along the eastern Highlands and consists of over 6,942 acres between Peekskill and Beacon.

Cultural Resources

Archeological

Archeologists have determined that although the population was very sparse, a number of different types of sites have been identified in the region based on the various activities that occurred at each site. The conclusion that different activities were occurring at different sites is based upon the variety of stone tools and other artifacts recovered from each site and their environmental setting. Identified site types include base camps, quarry workshops, rock-shelter habitations, open air hunting camps, kill and butchering sites, and other temporary camps (Funk 1972).

Historic Buildings and Structures

Both parks contain historic buildings and structures. There are several Civilian Conservation Corps buildings within Fahnestock that are eligible for nomination to the National Register of Historic Places. In Hudson Highlands, the following structures are currently listed: Harriman Toll House, Beacon Fire Tower, and Bannerman's Castle. The Beacon Fire Tower is a known destination in the Highlands and is currently being restored by the Mt. Beacon Fire Tower Restoration Committee. The University Settlement Camp, Cornish estate ruins, and the initial 3,000 acre portion of Fahnestock State Park are potential candidates for nomination to the National Register. See Figure 13 for a map of the cultural resources of the parks.

Scenic Resources

Scenic Areas of Statewide Significance

The New York State Department of State has identified the Hudson Highlands region of Hudson River shoreline as a Scenic Area of Statewide Significance (SASS). The Hudson Highlands SASS is of statewide aesthetic significance by virtue of the combined aesthetic values of landscape character, uniqueness, public accessibility and public recognition.

Within the SASS there is unusual variety, as well as unity of major components and striking contrasts between scenic elements. The SASS is generally free of intrusive features and the scenic quality of the Hudson Highlands is significant based on the existence of numerous physical and cultural characteristics (NYS DOS 2004).

Scenic Vistas

Scenic Highway Corridors

In addition to the Hudson River, several highways traversing Fahnestock State Park and Hudson Highlands State Park Preserve have high scenic character and provide visual access to scenic features. These roads provide access to the parks and provide all users with an appreciation of the area's scenic character.

The Taconic State Parkway is a designated Scenic Byway and the 6+ miles through Clarence Fahnestock Memorial State Park are especially high in scenic quality due to the natural setting, road alignment, off-site views, and a general absence of discordant features. The former ski area parking lot north of Route 301 is one of the few negative elements. Preservation of scenic and historic

character of the parkway is implemented through consultation between OPRHP and the Department of Transportation on parkway construction projects.

Portions of State Route 9D south of Cold Spring are designated as Scenic Roads under Article 49 of the Environmental Conservation Law and the section north of Cold Spring appears suitable for similar designations. This highway passes through the entire SASS designated area with multiple views of the Hudson River and the Highlands. Portions of Route 9 between Annsville Circle and I-84 also offer outstanding views of the east side of the Hudson Highlands (Fishkill Ridge, Scofield Ridge) and Peekskill Bay.

Route 301 extending from Route 9 to the Taconic State Parkway is a scenic corridor with a large percentage of the alignment being adjacent to the park's woodlands, wetlands and water features. The Canopus Lake portion is an especially scenic combination of water and mountain views.

Scenic Vistas

The extensive trail systems within Fahnestock State Park and Hudson Highlands State Park Preserve provide numerous views and vistas from upland ridges and riverfront settings. The lowlands at Denning's Point, Little Stony Point, Dockside, Constitution Marsh, Arden Point and Annsville Paddlesport Center all provide dramatic views of the Hudson River and the Highlands on the west shore. These views are enhanced by the proximity to the shore of the Hudson River and the looming nature of the highlands as viewed from below. Several of these views combine the rugged mountains on both sides of the river, and collectively the sites provide views stretching the length of the Hudson River Gorge.

Views from upland portions of the trail system are equally impressive and extensive. While trails on Breakneck, South Mount Beacon, Scofield Ridge and Anthony's Nose are among the more well-known, there are spectacular views throughout both parks. Many consist of long off-site views across the Highlands to the Shawangunks, Catskills, and the New York City skyline. Their defining features are often a broad expanse of wooded mountains, water features, and man-made features diminished by the scale and scope of the view.

The Appalachian National Scenic Trail includes a series of highly scenic views in its route between the Bear Mountain Bridge and Shenandoah Mountain at the north end of Fahnestock. By agreement with the National Park Service and others, the land surrounding the "AT" through the parks is managed to protect its scenic character. See Figure 14 for a map of the scenic resources of the parks.

Gardens

The Ann Odell Memorial Butterfly Garden is located at Hubbard Lodge. There are no other formal gardens within the parks.

Recreational Resources / Activities

See Figures 15A, 15B and 15C for a map of the recreational resources of the parks.

Boating

Visitors at Fahnestock are permitted to launch their personal boats on the lower basin of Canopus Lake and Stillwater Lake with a Taconic Region yearly or weekly Boat Permit. An additional permit is required to access Stillwater Lake (free of charge). Rowboat rentals are available on the lower basin of Canopus Lake from Memorial Day weekend through Columbus Day.

Hudson Highlands offers car top boat launching facilities at the Annsville Creek Paddle Sport Center and Dockside. No permit is required. Kayak and canoe rentals, lessons and tours are also available at the Annsville Creek Paddle Sport Center currently operated by concession agreement.

Picnic Areas

Pelton Pond Picnic area receives year round use, with seasonal facilities and restrooms, including a picnic shelter with two fireplaces, available by reservation (fee required). There are no formal picnicking facilities at Hudson Highlands.

Swimming

The Canopus Recreation area, open from Memorial Day weekend through Labor Day, offers guarded lake swimming, restrooms, showers, and a concession operation. A vehicle use fee is imposed for entry to Canopus Lake, but not at Pelton Pond. As a result, an inordinate number of visitors park their vehicle at Pelton Pond and walk down Rt. 301 to Canopus to access the beach to avoid the fee.

There are no formal swimming facilities in Hudson Highlands. However, the beach at Little Stony Point on the Hudson River attracts a large number of visitors for swimming (prohibited) throughout the year.

Trails

With over one hundred miles of trails, ranging from easy (Pelton Pond and Arden Point) to difficult (Breakneck Ridge), the parks offer opportunities for hikers, mountain bikers, and equestrians of various skill levels. As a year round facility, many trails are utilized for cross country skiing and snowshoeing when conditions permit. Thanks in large part to a major volunteer effort, coordinated by the New York New Jersey Trail Conference, trails are generally in good shape, well maintained and well blazed. Free maps are available to the public at the Fahnestock State Park office, various kiosks in the park, and at the trail heads of Mt. Taurus and Breakneck Ridge at Hudson Highlands.

Camping

The campground at Fahnestock has seventy-nine sites, with the horse trailer parking area used as an overflow / emergency area. The facility offers restrooms and showers, as well as a seasonal Nature Center (Memorial Day weekend through Labor Day). All sites are equipped with a picnic table, barbeque grill and a fire ring (firewood is available for purchase from park staff). Trailers up to thirty feet can be accommodated on some sites. However, there are no electric / water hook-ups or dump stations.

The Group Campground, located on Dennytown Road, is a primitive campground available to groups of fourteen or more. Amenities are limited to outhouses, a community water source and a fire ring. The area is especially popular among groups such as the Boy Scouts, Royal Rangers, day camps and colleges, but is also used for reunions, weddings, and emergency response drills.

There are no camping facilities in Hudson Highlands.

Fishing

Fishing is permitted, from sunrise to sunset, in Canopus Lake, Stillwater Lake, John Allen Pond, Beaver Pond, and Pelton Pond. The NYS DEC stocks both brown trout and rainbow trout in Stillwater Lake and Pelton Pond annually. Anglers will also find smallmouth bass and largemouth

bass, chain pickerel, yellow perch, and other panfish in park ponds and lakes. In recent years, the park staff has reported an increase in the number of ice fishing at Canopus Lake.

Fishing at Hudson Highlands can be found almost anywhere along the Hudson River, especially at Annsville Creek and Denning's Point, which is an extremely popular area during striped bass season. Most fishing on the River is done from the shoreline, with the exception of Annsville, where there are three small fishing piers.

Hunting

Both parks offer a limited spring turkey hunting season as well as archery for deer from the beginning of the bow season through the late bow season, uninterrupted. The regular gun season is limited to shotgun only, on a 500 acre portion of Fahnestock, located between Rt. 301 and Indian Brook Road in Fahnestock State Park. Permits are required for all hunting within the Parks and all permits are available one month prior to the start of their respective season.

Geo-caching

In an effort to control the number and especially the location of caches placed within the parks, permits are issued for caches in specific locations. Permits are valid for two years, at which time the cache must be moved to a new location. The number of registered caches has increased dramatically since the institution of a permit system.

Bird Watching

With two Bird Conservation areas of over 10,000 acres and an abundance of bird species available, including some rare species, both parks attract a large number of bird enthusiasts. Local Audubon clubs use the parks regularly.

Orienteering

Fahnestock is utilized by groups (Hudson Valley Orienteering) for several orienteering meets per year. There is no orienteering at Hudson Highlands at this time.

Cross-Country Skiing and Snowshoeing—Fahnestock Winter Park (FWP)

Opened in 1996, FWP offers 9 miles of machine groomed, tracked and mapped trails for beginning to experienced Nordic skiers and snowshoeing. Visitors enjoy trails that wind by lakes, stone walls and granite rock outcroppings. To connect people to the landscape, trail names, park flora, animals and birds are highlighted through interpretive material.

Winter outdoor recreation is enhanced by the facilities and landscape of Fahnestock. Families find the park particularly enjoyable because it offers easy terrain to ski on near the lodge. There is also an inner tube sledding hill and an outdoor fireplace for patrons to warm up.

The Winter Park features a rustic warming lodge with ski merchandise, food and beverage, changing rooms, and restrooms. Ski rentals and lessons are also available. The Winter Park is located at an elevation of 1,100 feet which helps capture additional snow during storms. Parking is available for cars and buses.

Miscellaneous Activities

Stargazing permits are available (fee required) for after hours access to the Canopus Beach area “ the number one site to watch the stars in the Southern Tier ” according to the New York City Amateur Astronomers Association.

Metal Detector permits are available (fee required) for the use of Canopus Beach only, during the off season.

Interpretive / Educational Programs

Public Programs

Taconic Outdoor Education Center (TOEC)

Opened year round since 1984, TOEC provides environmental education, outdoor recreation, Project Adventure, maple sugaring, retreats, and public programs for Hudson Valley schools, scout troops and clubs. The goal of all activities is to actively link children, teachers, parents, and families to positive outdoor experiences. TOEC can accommodate overnight and day visitors. Center staff also visit schools and provide lessons.

With a wood-burning stone fireplace, colorful interactive nature displays, Nature Shop, thirteen comfortable woodland cabins, friendly service, excellent meals and knowledgeable educators, Highland Lodge sets the stage for many activities at TOEC. The lake also offers opportunities for aquatic study and outdoor recreation activities. TOEC staff also support the Park's Friends group, the Region's summer interpretive activities, invasive plant management, and have operated the Canopus Beach concession since 1995.

Hubbard Lodge

A former hunting lodge, this facility is utilized for in-house meetings and is rented to the public (including not-for-profits) for meetings and small events. It is also home to the Ann Odell Memorial Butterfly Garden.

Constitution Marsh

Managed by the National Audubon Society, this facility includes a nature center building which was initially opened in 1990 for seasonal use. The center has since been fully winterized, is open all year and the trails are open to the public every day. The site is a very popular place for estuarine ecology education programs and guided canoe tours. Conservatively the estimate is between five and six thousand people participating in programs or visiting independently each year.

Annual Large Events

Sap to Syrup Pancake Breakfast

A Sugar Maple celebration held in March. Includes a pancake breakfast and hands on demonstration of tapping trees, boiling sap and producing syrup.

Mountain Laurel Outdoor Recreation Fest

A day dedicated to outdoor sports is held in May. Participants can learn about canoes, orienteering, outdoor skills, adventure challenges, birds, and nature. Other activities include nature walks and a live wildlife presentation.

Winter Activities

Winterfest

Held annually in January, activities include nature walks, crafts, winter sports, and a live animal presentation.

Emergency Plans and Services

The parks reside in three counties and there are numerous emergency action plans to deal with whatever may arise; from accidents and illness, to theft in the parks. Some of these plans are region wide while others are park specific.

Confined Space entry and hazard communication plans for workers safety are maintained, as are lists of Material Safety Data Sheets (MSDS) for all supplies and chemicals used at the park. There is also a Pesticide Technician on staff to record and report pesticide use annually to the NYS DEC.

Security within the park is providing by the New York State Park Police with the Regional headquarters located in Staatsburg, N.Y.

Police

NYS Park Police patrol and respond to emergencies at Fahnestock and Hudson Highland State Parks. After hours, assistance is provided by the Putnam County Sheriff, Kent Police and the NYS Police, Troop K.

Fire

With Fahnestock and Hudson Highland State Parks located in three separate counties, fire services are contacted by the NYS Park Police and in their absence, #911 Emergency Response is used. Assistance is given by nearby fire companies.

Ambulance / Emergency Rescue

Multiple ambulatory and rescue services are available to the park depending on the need. Lifeguards and park staff are all certified in CPR and First Aid and assist until volunteer ambulance services arrive. Ambulance services are contacted by NYS Park Police, or in their absence, through the respective county's 911 Emergency Response.

Police, Fire and EMS Services Contact information

- New York State Park Police— (845) 889-4100
- Putnam County Sheriff— (845) 225-4300
- Kent Police— (845) 225-4600
- New York State Police, Troop K— (845) 677-7300

All-Hazard Emergency Operations Plan

The park, in cooperation with the NYS Park Police, local, county and other state emergency services, tenants and park concessionaires is currently working to create an “All-Hazard Emergency Operations Plan” (EOP) which will replace existing plans with one comprehensive emergency plan. The plan will be based on guidelines provided by the Federal Emergency Management Agency (FEMA). The EOP will be a guide in case of any type of incident, whether it is a man-made or natural event or disaster and will cover all aspects of the park and all related facilities.

Infrastructure

Water Supplies

Potable Water Systems

There are four potable water supplies within Fahnestock and all are from groundwater sources. These supplies are classified as “public” and are regulated by the NYS Dept. of Health. They are: the Beach/Campground, Hubbard Lodge, the Wilderness campground and TOEC. In addition, there are also two non-public water supplies; one at Conklin Cottage at the Hubbard Lodge area and one at the park manager’s residence and the park office. Non-public supplies are not regulated by DOH; however, they are monitored by OPRHP to insure that the potable water meets DOH standards and is in compliance with OSHA regulations and the NYS Building Code.

In Hudson Highlands the facilities at Denning’s Point and University Settlement are connected to the City of Beacon’s municipal water supply. In addition there are two non-public water supplies, one at a vacant residence on Route 9D and the other at the residence at Little Stony Point. Both of these are ground water sources.

Waste Water and Sewerage

Fahnestock

- Taconic Outdoor Education Center. The major of waste water is treated using a centralized absorption field system. System is 12 month active use with a 125 person population with an 8,000 gpd design flow.
- Campground. The north shower building uses the centralized beach area absorption field system. The shower building is a seasonal use. The south shower building is serviced by an absorption field system. The shower building is a seasonal use.
- Beach & Recreation Area. Waste water is treated using a centralized absorption field system. The system is designed for a 500 person population with a design flow of 1,000 gpd.
- Hubbard Lodge. Waste water is treated using an absorption field system and has an 2-50 person population. This system’s design flow is 715 gpd.
- Conklin Cottage. Waste water is treated an absorption field for 2 person population and has a 300 gpd design flow.

Hudson Highlands

- Denning’s Point. Waste water from the Beacon Institute and public restroom is treated by composting.
- Little Stony Point. There is a composting toilet unit.
- Annsville Creek Paddlesport Center. There is a composting toilet unit.
- University Settlement. Several individual absorption fields serve this area; The City of Beacon is investigating the feasibility of a connection to its municipal system.

Electricity

Fahnestock

- Electric service is primarily above ground. OPRHP owns and operates the major electric distribution system along NYS Route 301. Service is provided by Central Hudson.

Hudson Highlands

- Annsville Creek Paddle Sport Center. Electric service is Consolidated Edison.
- Little Stony Point. Electric service is provided by Central Hudson.
- Denning's Point. Electric service is provided by Central Hudson.

Telephone

- Telephone service to the parks is provided to the park by Verizon.

Roads, Bridges and Dams

Roads

Fahnestock

- Campground road is an asphalt surface and is approximately 5,000 linear feet.
- Beach access road is asphalt surface is approximately 2,450 linear feet with a gravel surface parking area of 97,100 square feet.
- Taconic Outdoor Education Center Road is gravel surfaced with an approximate length of 5,120 linear feet.
- Hubbard Lodge Road (Old Post Road Alignment) is asphalt surfaced and is approximately 2,300 linear feet

Hudson Highlands

- There are no park roads maintained for vehicular use by the public. There are roads at Denning's Point, the former Woodle parcel, Dutchess Junction (the town operated portion of the park), old Lake Surprise Road (used to access the Aqueduct), Little Stony Point, Dockside, and Arden Point.

Bridges

Fahnestock

- No park owned bridges of significance.

Hudson Highlands

- Denning's Point Access Road over Metro-North. Bridge Identification Number (BIN) 5524010. The steel pony truss with wood deck surface bridge was constructed in 1915 and spans 171 feet.
- Little Stony Point Access Road over Metro-North. Bridge Identification Number (BIN) 5521810. The steel girder floor beam with concrete deck surface bridge was constructed in 1925 and spans 74 feet.
- Arden Point Access Road over Metro-North. Bridge Identification Number (BIN) 5524020. The steel thru-truss with concrete deck surface bridge was constructed in 1928 and spans 91 feet.

Dams

Fahnestock

- John Allen Pond. Decommissioned 2009.
- Canopus Lake North End. Twenty (20') feet high gravity dam supporting a 50 acre lake. DEC Classification A.

- Canopus Lake South End (Route 311 Culvert Outlet). Twenty (20') feet high earth and concrete core dam supporting a 65 acre lake. DEC Classification A
- Duck Pond A. Thirteen (13') feet earth dam supporting a 13 acre pond. DEC Classification A.
- Duck Pond B. Thirteen (13') earth dam supporting a 13 acre pond. DEC Classification A.
- Pelton Pond. Forty-one (41') feet high earth/concrete dam supporting a 9.2 acre pond. DEC Classification B.
- Stillwater Lake. Forty-two (42') feet high gravity dam supporting a 55 acre lake. DEC Classification A.
- Hidden Lake. Six (6') feet high earth dam supporting a 20 acre lake. DEC Classification A.
- Wiccopee Dam. The Wiccopee dam is a small earthen dam with concrete core. The dam is situated on the Trout Creek and is approximately twenty (20') feet high and one hundred and eighty (180') feet wide. DEC Classification A.

Hudson Highlands

- Breakneck. Decommissioning in progress. Eighteen (18') feet gravity dam supporting a 5 acre lake. DEC Classification A.
- Aldrich Lane Pond. Earth dam is included in the area operated by the Town of Fishkill.

Accessibility

There are accessible parking spots in both parks. In addition, both parks make every attempt to keep compliant with current indoor and outdoor accessibility standards. New construction is built in accordance with Americans with Disabilities Act Accessibility Guides and the New York State Building and Fire Code.

Access Points and Parking

Visitors have multiple access points into both parks given the major roadways that traverse the parks. At Fahnestock, Route 301 divides the park and at Hudson Highlands Routes 9 and 9D run north and south through the park. There are sixteen parking areas at Fahnestock and twelve within Hudson Highlands. At both parks, many of these parking areas are associated with trails and are informal parking areas. The major parking areas at Fahnestock include the parking area at Canopus Lake Beach; Pelton Pond; Canopus Lake boat launch; and TOEC. Other parking areas are informal or do not hold many cars. At Hudson Highlands, the major parking areas are located at Little Stony Point; Breakneck Ridge; Annsville Paddlesport Center; and Denning's Point. There are parking locations for access points to the park that are operated by other entities; the Mount Beacon parking area operated by Scenic Hudson is an example, as is the MTA parking lot at the Garrison Station that is used by people visiting Arden Point. Parking can be troublesome at Hudson Highlands especially along Route 9D.

Buildings

Please see Appendix F for a listing of the existing buildings in both parks. See Figures 16A, 16B and 16C for maps of the structures in both parks.

Operations

Maintenance

The maintenance / storage facility is located adjacent to the Park Office on Rt. 301. Equipment for both parks includes two 4WD 1 ton dump trucks, four pick-up trucks, one utility body truck, a

W14C Case loader, two tractors, two ride-on mowers and a John Deere Gator. TOEC has one dump truck, four pick-up trucks, two electric vehicles, one ride-on mower and two mules that are utilized at the Fahnestock Winter Park. Currently there is no equipment storage facility in either park. The current maintenance facility does not meet the demands and needs of the park.

Solid Waste Management and Recycling

Garbage pickup for the park is by private carter. Recyclables are collected in park offices and handled by park staff.

Park Season and Hours

The park is open year round from sunrise to sunset. The vehicle use fee (entrance fee) is currently \$6 and is in effect from April through November and the Empire Passport is accepted. Hours of collection vary throughout the season.

Wood Permits

Wood permits are available for a two month period that allows one to cut downed wood for personal use in areas designated by the park. Wood cutting is restricted to Fridays and Saturdays from October through April. Wood permits are issued for both parks.

Chapter 4: Park Vision and Goals

The vision and goals described below uphold the preservation, recreation and environmental education values of OPRHP while guiding management and development actions. Many of these goals reflect programs and actions that the Taconic Region has continued to implement on an ongoing basis in the development, management, and operation of both parks.

Agency Mission Statement

The mission of Parks, Recreation and Historic Preservation is to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural, historic and cultural resources.

Park Visions

Fahnestock

Clarence Fahnestock Memorial State Park provides protection of an extensive upland contiguous forest, ecosystems, and undeveloped tracts of land within the New York Highlands region while hosting a wealth of recreation opportunities including hiking, camping, swimming, equestrian, fishing and boating and the Winter Park. Its Taconic Outdoor Education Center provides environmental education and interpretation for elementary to high school groups, scout troops and clubs within an hour's drive of New York City. Fahnestock will continue to offer year-round recreation with the goal of expanding the park and its recreational opportunities and the protection of its natural resources for future generations.

Hudson Highlands

Hudson Highlands State Park Preserve offers miles of challenging trails and rewards park visitors with stunning views of the Hudson River and the Highlands. It connects people to the river and the unique history of the Hudson Valley while providing critical habitat for native and rare flora and fauna. Hudson Highlands will continue to support passive recreation and will continue to expand and protect open space and critical habitat in the Highlands region. The park will make an effort to establish greater collaboration for environmental education and outreach and will improve connectivity for people and wildlife.

Overall Park Goals

To achieve a balance between recreation and the protection of natural and cultural resources of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Natural Resource Goals

Overall Goal

To protect, preserve and interpret the natural resources of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Goals

- Protect and maintain areas important as habitat for rare, threatened, endangered or protected plant and animal species and community types.

- Maintain, restore and/or enhance the natural environment where appropriate, to improve the quality of natural resources and support biodiversity of plant and animal species.
- Protect and maintain the quality of water resources.
- Develop appropriate wildlife management strategies to protect human health and safety; prevent wildlife damage to buildings, grounds and natural resources; and to protect and promote biodiversity.
- Develop management strategies for the unique natural resource areas of the park, including significant summit communities, and Constitution Marsh.
- Control and / or eliminate invasive species with an invasive species management strategy. Foster partnerships to help control invasive species and inform the public.
- Encourage establishment of plants considered indigenous to the parks.
- Improve the ecological connectivity between disjoint parcels and with other nearby protected lands through the acquisition of lands which are adjacent to or connect with both parks.
- Design and locate recreational and interpretive facilities to assure that they do not exceed the parkland's capacity to withstand use or infringe on important natural habitats and are compatible with the protection of park resources.
- Apply the principles of ecosystem-based management to operational and resource protection activities within the parks.

Recreation Goals

Overall Goal

To provide day use facilities and programming that is compatible with the natural and cultural resources of both parks, as well as camping at Fahnestock Memorial State Park.

Goals

- To provide year-round facilities and programs for the public including, camping, hiking, cross-country skiing, snowshoeing, horse-back riding, biking, swimming, hunting, fishing, geo-caching and car-top water craft.
- Develop ball-fields and picnic pavilions at the Canopus Lake Recreation Area.
- Expand the trail system for hiking, horse-back riding, biking, cross-country skiing, and snowshoeing.
- Provide for wildlife viewing opportunities.
- Implement programs and facilities that are consistent with regional and local needs and demands as identified in the Statewide Comprehensive Outdoor Recreation Plan (SCORP), and other federal, state and local plans and programs.
- Identify recreational activities that are compatible with the natural and cultural resources of both parks; and provide appropriate support facilities for those activities to meet the recreation demands for the region.

Cultural Resource Goals

Overall Goal

To protect, preserve and interpret important historic structures, landscapes and archeological resources within Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Goals

- Identify and protect archaeologically sensitive areas.
- Maintain, protect and restore important historic vistas.
- Preserve historic structures and identify new uses for vacant and underutilized buildings that are compatible with their historic function.
- Develop and coordinate programs and activities which interpret the Native American, Revolutionary War and industrial history and culture associated with the parks.
- Conduct Cultural Resource Inventories for both parks.

Scenic Resource Goals

Overall Goal

Protect the scenic quality of the parks; especially the open views, vistas and picturesque landscapes.

Goals

- Design and locate activities, structures and infrastructure that fit into the parks' setting and minimize visual impacts.
- Provide and maintain vistas to the Hudson River using topography or existing clearings whenever possible.
- Develop a scenic vista management strategy to help improve, maintain and restore scenic vistas in both parks.
- Improve the view of the shores of Canopus from the water, especially the swimming area.
- Identify sites used by Hudson River School painters.

Open Space Protection Goals

Overall Goal

Protect open space within and adjacent to the parks through acquisition, designation, and coordination with public and private partners in accordance with goals outlined in the Open Space Plan.

Goals

- Continue to improve connectivity to nearby parks, natural areas and open spaces.
- Designate Hudson Highlands as a Park Preserve and a Park Preservation Area at Fahnestock to protect park land.
- Work with park partners, friends groups and local land preservation groups to acquire, preserve and protect open space adjacent to the parks.
- Complete the physical connection between Fahnestock and portions of Hudson Highlands State Park Preserve.
- Continue the use of conservation easements to protect adjacent properties.

Access Goals

Overall Goal

Provide appropriate access to and within Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve.

Goals

- Provide and maintain safe access to the parks from local roads.
- Provide a non-motorized trail system that links the parking area(s) to the natural, cultural and recreational resources.
- Provide safe access across roadways that connect parking areas with activity areas.
- Identify locations in both parks where access issues exist and identify solutions to mitigate outstanding issues.
- Provide and maintain access for emergency response and rescue operations.
- Provide access to park resources for persons with disabilities in accordance with the Americans with Disabilities Act Accessibility Guidelines (ADA).

Education and Interpretation Goals

Overall Goal

Provide opportunities for education and interpretation of the natural, cultural and recreational resources of the parks.

Goals

- Provide guided and self-guided interpretive programs designed for the general public and for organized groups, especially in natural areas that are compatible with the protection of park resources.
- Develop a nature center within Hudson Highlands State Park Preserve to create a space to for park visitors, children and other groups can learn about the biodiversity of the Hudson Highlands.
- Provide a year-round interpretive program.
- Provide outreach program designed for local schools and other organizations.
- Provide programs and media to interpret the natural, cultural and physical resources and educate the public of their importance including the major eras of park history (e.g. geologic, Native American, Colonial, Industrial, and CCC).
- Develop interpretive signage that is cohesive in its aesthetic throughout the park.
- Strengthen partnerships with existing organizations providing educational and interpretive program opportunities in the vicinity of the parks.
- Encourage use of the parks for education and research.

Operation and Maintenance Goals

Overall Goal

Operate and maintain the park in a safe, clean and sustainable manner that protects the natural and cultural resources of the park and the welfare of the park patrons.

Goals

- Develop and implement a set of maintenance and operation guidelines.
- Develop partnerships and agreements for maintenance and operation.
- Identify specific approaches to address resource protection and natural resource maintenance within the parks' operation and maintenance programs.
- Identify and implement alternatives for waste management.
- Provide a more efficient communications system for park staff.

- Replace high maintenance items with more sustainable, low maintenance items.

Facility Development and Capital Investment Goals

Overall Goal

To provide quality facilities with a consistent design aesthetic while utilizing sustainable/green building practices and respecting historic character.

Goals

- Identify uses for vacant or underutilized buildings in the park.
- Demolish selected structures.
- Schedule and perform preventative maintenance on existing buildings, structures, roads, and infrastructure.
- Relocate park office.
- Improve Pelton Pond picnic area including pavilion, restrooms and parking area.
- Upgrade the buildings at Canopus Beach to accommodate both summer and winter activities.
- Develop a visitor center at Hudson Highlands with a parking area and restrooms.
- Improve parking at Little Stony Point, Breakneck Ridge, North Redoubt, and Canopus Beach and boat rental.
- Improve Canopus Lake boat rental facility; shoreline improvements; identify a new area for fishing; improve ADA accessibility.
- Construct a system of trailhead parking areas.
- Improve equestrian parking to better accommodate horse trailers.
- Continue rehabilitation of roads, bridges, dams and utilities.

Communication and Partnership Goals

Overall Goal

Develop partnerships with other organizations, federal, state and local agencies, not-for-profit groups and the private sector.

Goals

- Organize a group to improve coordination of programs, services and facilities and to address any issues.
- Develop partnerships for maintaining facilities and conducting programs.
- Coordinate with federal, state and local agencies in the management and stewardship of the natural, cultural and recreational resources of the park.

Inventory, Monitoring and Research Goals

Overall Goals

Encourage the inventory and monitoring of and conduct scientific research of the natural and cultural resources of the parks.

Goals

- Provide a coordinated approach to inventories, monitoring programs and research that facilitates data exchange.
- Assure that all inventory, monitoring and research programs are compatible with the protection of the park resources and findings incorporated into the OPRHP research tracking system.
- Identify priorities for needed data collection and research.
- Establish schedule for completion of highest priorities.
- Foster partnerships with local colleges, universities, institutions, and individuals to conduct inventories, monitoring, and research.

Chapter 5: Analysis and Alternatives

Introduction

One of the important aspects in the master planning and environmental review process is the identification of alternatives and associated analysis. This section essentially represents a concise summary of a detailed report on Analysis and Alternatives evaluated as part of the planning process for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. The detailed report is contained in Appendix A.

The analysis of Alternatives is based on the information contained in Chapter 2 – Park Background, Chapter 3 – Environmental Setting and Chapter 4 – Vision and Goals. Plan elements were identified and alternatives for each element were evaluated. All of the preferred alternatives were then reviewed in concert to determine if any additional adjustments were needed. The end product of this effort on plan element analysis was two master plan alternatives: Status Quo and Preferred Master Plan.

Analysis and Alternatives of Master Plan Elements

For each plan element the resource and inventory information was analyzed, identifying opportunities and limits of the resources and existing facilities. The findings from this analysis were used in developing and defining element alternatives pertaining to the stewardship of resources, recreation opportunities, and facility development.

Appendix A provides a thorough description of alternatives considered for natural resource stewardship strategies, recreation resource development/management, cultural resource protection, scenic resource protection and infrastructure development. The discussion of each element includes: 1) a background section with analysis, 2) a list of alternatives including the Status Quo alternative along with a listing of considerations for each alternative, and 3) identification and description of each preferred alternative.

Master Plan Alternatives

There are two Master Plan alternatives that have been considered for this plan. The first is the Status Quo Alternative which is a compilation of all the Status Quo element alternatives listed in Appendix A. Under this alternative, the parks would continue to operate as they are now. The Status Quo alternative proposes no changes to natural resources protection strategies, recreation resource development/management, cultural or scenic resource protection and infrastructure improvements.

The second alternative is the Preferred Master Plan alternative, this alternative is a compilation of the preferred alternatives identified for each element discussed in Appendix A. OPRHP staff reviewed the listing of each preferred master plan element to determine if any adjustments were needed in arriving at the Master Plan. This synthesis review did not identify the need for any substantive changes in the set of preferred master plan elements. Thus, the Preferred Master Plan Alternative represents the master plan itself which is fully described in Chapter 6 – The Master Plan.

Selection of the Preferred Master Plan Alternative

Many of the recommended directions chosen in analyzed elements were the status quo alternatives in addition to other alternatives that build and expand upon what is already being done. In addition, projects designed to improve on current functions, identify future improvement to existing facilities, and provide for new opportunities are explained, in concept, in the plan. These include changes to

trail system configurations and designations, natural resource protection strategies, recreation resource development and infrastructure not currently in the park.

In choosing the Master Plan Alternative over the Status Quo Alternative OPRHP is providing an overall direction for improvements and changes which will have a positive impact on the recreational, cultural and natural resources within the park. All decisions can be found in Appendix A.

Chapter 6: The Master Plan

Designations

Bird Conservation Area

The existing BCA at Fahnestock will be expanded. See Figure 4A for a map of the new BCA boundary. A second BCA will be designated within Hudson Highlands. See Figure 4B for a map of the BCA at Hudson Highlands.

Park Preserve / Park Preservation Area

Fahnestock

A park preservation area will be designated within Fahnestock. See Figure 17 for a map of the preservation area. The park preservation area will not preclude or limit the development of non-motorized trails.

Hudson Highlands

Hudson Highlands will be designated as a park preserve. Upon adoption of the Master Plan the park's name will be changed to "Hudson Highlands State Park Preserve." The park preserve designation will not preclude or limit the development of non-motorized trails.

Natural Heritage Area

A Natural Heritage Area (NHA) will be designated in Fahnestock and Hudson Highlands. See Figures 18A and 18B for maps of the NHA boundaries in each park.

Natural Resource Protection

Invasive Species Management

The NY Natural Heritage surveys (Lundgren and Smith 2010a, 2010b) recognize invasive species as one of the greatest threats to the biodiversity of both parks. The species of greatest concern are: black swallow-wort (*Cyanichum louiseae*), Phragmites (*Phragmites australis*), multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergii*), mile-a-minute weed (*Persicaria perfoliata*) and hemlock woolly adelgid (*Adelgus tsugae*). Control of these species and restoration of native species will result in improved habitat values and functions.

In accordance with the Heritage report recommendations, invasive species management plans for both parks will be developed. These plans will provide guidance for invasive species inventories, priority ranking control efforts, and development of management strategies for control and monitoring projects. Prioritizing projects based on the degree of threat will direct limited resources to the areas in greatest need. These plans will also insure that the best available science, best management practices, and adaptive management strategies are used. This approach will also promote a greater understanding of invasive issues and their impact on biodiversity by both agency staff and the public.

While this planning is critical, there is also an immediate need to develop a rapid management response to some invasive species, such as black swallow-wort, due to the significant threat these species pose to sensitive natural communities. Rapid response actions should include reconnaissance

surveys of the most sensitive habitats followed by an immediate effort for control and monitoring. Such control efforts should be coordinated with the Lower Hudson Partnership for Regional Invasive Species Management (PRISM) and other partners. Additional education of staff and patrons on invasive species identification, and awareness of how to prevent further spread, is also an important priority in the short term. Information regarding invasive species and raising the awareness among campers to not move or bring firewood into the park is noted on the Reserve America website and is addressed by park staff when checking campers in upon their arrival.

Wildlife Resources

Approximately 84% of the 330,000 acre State Park System is considered natural habitat. As a general rule, State Parks follows a “passive management” approach, allowing natural processes to maintain wildlife populations. There are times, however, when a more active management approach is necessary. This management is done to protect the health and safety of park staff and patrons, protect species-at-risk, protect and enhance biodiversity, or to prevent damage to park buildings or infrastructure, using integrated management methods. Habitat management in the support of wildlife populations and biodiversity is based on goals that lead to the appropriate functioning of local ecosystems. In general, current policies and programs dealing with wildlife resources at the park are both adequate and effective and will be continued under the proposed master plan.

In the case of nuisance wildlife situations, OPRHP has developed management protocols on a species by species basis and also works closely with state and federal agencies as appropriate. For example, large numbers of Canada geese at the Canopus Lake bathing beach can threaten water quality by raising coliform levels. The park uses egg oiling and hazing to effectively reduce geese numbers at the beach. In another example, beaver activity can sometime cause flooding on park roads and trails and this is being addressed through the use of beaver baffler devices or pond levelers.

Deer Management

White-tailed deer are of concern due to their ability to negatively impact forest biodiversity and sustainability at a landscape level. Additional data on the current size of the deer population and its impact on parkland biodiversity are needed to document that there is a need for management actions, establish the objectives for the management actions, and to establish the baseline conditions which would be used to evaluate the effectiveness of those management actions. This information can be collected in a number of ways. One means is through the existing park hunting permit system. In addition, State Park biologists will establish vegetation monitoring plots in both parks in areas that are hunted and not hunted. Monitoring of these plots will then be conducted over time in accordance with a standard protocol to provide information about the type and extent of deer browse impacts on forest biodiversity. OPRHP will work closely with DEC to develop a park-wide management strategy to address any documented deer impacts to forest biodiversity and sustainability. As these impacts can extend beyond park boundaries, OPRHP will reach out to neighboring land owners such as Scenic Hudson and include them in the development of the management strategy. The management strategy will consider all available options to reduce deer impacts including opening additional areas for hunting, the establishment of check stations, and the use of NYS DEC “Deer Management Assistance Program” (DMAP) permits, which allow for increased take of antlerless (female) deer to help reduce deer populations. The management strategy will be developed and implemented in accordance with the agency’s recreation and resource protection mission.

Summit Communities Management

Summits, by their nature, are some of the most popular visitor destinations due to the scenic opportunities they offer. The vegetation and thin soils of summit communities, such as pitch pine-oak-heath –rocky summits, are susceptible to trampling and erosion in areas exposed to heavy recreational use. Rare plant populations that are present in some of these summit communities may become vulnerable to trampling. Certain species of rare animals are also present in these community types and, depending on the species, may rely on them as their preferred habitat or use the open rocky habitat or the plants they support for critical life functions at various times of the year.

A combination of wind, thin soils, and periodic fire is responsible for maintaining the species composition and open character of summit communities. Some species, such as pitch pine, are fire dependent, dropping their seeds when the cones open from the heat of fire. By eliminating natural disturbance processes, such as fire, from these community types, a resultant change in the species composition and possible loss of the ecological community may occur over the long term. In light of this, a fire management strategy for the summit communities will be developed to allow for the maintenance of these areas. This strategy will outline the necessity of fire in specific areas, whether wildfires would be allowed to burn, and the acceptable conditions under which this would be allowed to happen in order to mimic the natural disturbance regime necessary to maintain these natural communities.

There is a need for continued monitoring of conditions in summit communities, to ensure that the communities and the flora and fauna they support aren't being negatively impacted by the factors listed above. Early detection and rapid response to control invasive species in the summit communities is essential and will aid in the protection of these areas. Additionally, education programs and materials outlining the importance and fragility of these resources in both parks, and encouraging users to stay on designated trails (through brochures and/or educational signs placed along the trail system), may help reduce potential negative impacts to the communities and rare species, while also providing visitors with a greater understanding of the park's natural resources and the need for their protection.

Rare, Threatened and Endangered Species

OPRHP will continue to work closely with NYS DEC and other partners to support research and survey efforts on rare and endangered flora and fauna in these parks, as additional information will assist with more informed decision making regarding land management activities that may affect these species.

Management of populations of rare and listed species should follow appropriate State and Federal management guidelines, if they exist. In the case of Federal or State listed species, management should be arranged through consultation with NYS DEC and NYNHP biologists, as well as OPRHP biologists, and include appropriate state and federal permits.

The following are some general guidelines for the protection and management of rare species found in these parks, although protection and management guidance may vary by species, location, and degree of threat:

Rare Aquatic Plants of Constitution Marsh and other Hudson River Habitats

Continue to monitor and control common reed at Constitution Marsh; continue to work with boating groups to minimize potential impacts from boating disturbance; monitor to protect shallow water habitats, prevent shoreline erosion, and to minimize impacts from deer.

Rare Upland Plants of Breakneck Ridge and Denning's Point

Monitor and control invasive plants such as black swallow-wort, tree-of-Heaven (*Ailanthus altissima*), and garlic mustard (*Alliaria petiolata*). Black swallow-wort has been identified as a threat to the State Threatened clustered sedge population on Breakneck Ridge, while tree-of-Heaven and garlic mustard are identified as threats to the State Threatened Davis' sedge population on Denning's Point (Smith and Lundgren 2010a); Monitor trails and popular vista areas for impacts from recreational activities or other habitat disturbances (e.g., development) to these two state listed plants and other state or regionally rare plants.

Rare Invertebrates, particularly Odonates (Dragonflies and Damselflies) and Lepidoptera (Moths, Butterflies, and Skippers)

Monitor habitat for arrowhead spiketail, Needham's skimmer, Appalachian azure, and Edward's hairstreak and document changes that may negatively impact these populations. Of particular importance is the maintenance of water quality and hydrology for arrowhead spiketail and protection of the essential foodplant for rare Lepidoptera such as Appalachian azure. Invasive species control and deer management will be key to protection of the habitat of Appalachian azure as the foodplant, black cohosh (*Cimifuga racemosa*), can be displaced by invasive plants, such as garlic mustard, or eliminated through browsing by white-tailed deer. Additional assessments of the full extent of the Appalachian azure population is needed, as well as additional inventory for other known and suspected rare invertebrates. Additional assessments are also necessary to better understand the status and distribution of black cohosh in order to inform management decisions as it relates to the Appalachian azure population (e.g., garlic mustard control, excluding deer from cohosh stands). Other management methods may also be required depending on the type and degree of threat.

State and Federally Listed Birds, such as the Bald Eagle (*Haliaeetus leucocephalus*), Peregrine Falcon (*Falco peregrinus*), and Least Bittern (*Ixobrychus exilis*)

At present the trail on Denning's Point is closed in the winter to minimize impacts to wintering bald eagles in this area. OPRHP will continue to coordinate closely with NYS DEC staff on this effort. In addition, trail closure signage will be improved and additional public education will be provided regarding the restoration of the Hudson River bald eagle population. NYS DEC conducts annual monitoring of peregrine eyries and OPRHP will maintain annual contact with NYSDEC Endangered Species unit staff to determine the success of the peregrine pairs nesting here and address any concerns that are brought to the agency's attention as part of this monitoring. OPRHP will continue to work with staff from National Audubon to address any invasive species issues or disturbance that is documented through annual monitoring by Audubon staff at Constitution Marsh. This will help with the management of breeding birds at the site, including the State Threatened least bittern.

Rare and State Listed reptiles (Timber Rattlesnake (*Crotalus horridus*), Northern Fence Lizard (*Sceloporus undulatus hyacinthinus*), Worm Snake (*Carphophis amoenus*), Rare Turtles and snakes (e.g., State Special Concern species including spotted turtle -*Clemmys guttata*, wood turtle – *Glyptemys insculpta*, Eastern box turtle –*Terrapene Carolina*, and Eastern Hognose Snake – *Heterodon platyrhinos*)). OPRHP will protect critical habitat for these species. In the case of the State Threatened timber rattlesnake, critical areas include overwintering sites (dens), basking, gestating, and birthing areas. For the State Threatened fence lizard and State Special Concern worm snake, these areas include open rocky slopes, summit and cliff communities, and transitional habitat associated with these areas. Critical habitat for rare turtles, such as the spotted turtle and wood turtle includes protection of wetland and riparian habitats, including adequate nesting habitat and connections between individual wetlands.

Rare Mammals – New England Cottontail (*Sylvilagus transitionalis*) and Small-footed Myotis (*Myotis leibii*)

Management goals may include the creation or maintenance of critical habitat to ensure a species persistence. Management for New England Cottontail will include maintenance or creation of essential shrubland habitat. Additional monitoring for this species will provide new data on occupied habitat and help to inform management options. Many bat colonies are suffering from an emerging disease known as White-Nose Syndrome (WNS) and will benefit from continuing to restrict human access to mines that are used as hibernacula.

Water Resources

Aquatic Invasive Species

Visual surveys for aquatic plants and invasive species will be conducted on a regular basis and levels of Eurasian Water Milfoil and other aquatic invasive species will be assessed. If invasive vegetation appears to be increasing, a more detailed survey will be conducted. Based on survey results, management recommendations will be made in accordance with best management practices. Potential options include the use of bio-controls, manual controls, and benthic barriers.

Signage will be maintained at all boat launches warning patrons about transporting invasive species on their boats and equipment and park patrons will be educated about the need to clean boats when travelling from one lake to another. These actions will help reduce the risk of spreading of Eurasian Water milfoil.

Watershed Protection

Both parks serve as important watershed protection areas for tributaries of the Hudson River, headwater streams and reservoirs that serve as drinking water sources. OPRHP will continue its practice of monitoring adjacent land uses for potential impacts to park resources within the watershed. The master plan does not propose any new development within the Upper Croton watershed, however, improvements are proposed to the Canopus Beach parking lot which is subject to regulation under NYC Environmental Protection watershed regulations. The NYC Department of Environmental Protection will be consulted during the design phase of this project.

Lakes, Streams and Wetlands

OPRHP will continue to employ best management practices to protect these resources within the park. Such measures include the use of appropriate buffer areas adjacent to water resources, the use of erosion controls during construction or maintenance activities involving soil disturbance, the proper design of stream crossings, and the use of appropriate storm water management measures.

Monitoring lakes, ponds, streams, and watershed land use is also considered a Best Management Practice and is supported by the management recommendations of the report “Non Point Source Assessment of Lower Hudson River Watersheds” by the Lower Hudson Coalition of Conservation Districts (2001-2002). Regular water quality monitoring will continue to be conducted on park lakes. Streamside bio-surveys and visual assessments will also be conducted to establish baseline information regarding stream health. This type of survey work will also identify areas that potentially in need of stream restoration.

The master plan includes a project to mitigate erosion on the peninsula area of Lower Canopus Lake that is occurring due to heavy shoreline fishing use.

Constitution Marsh

OPRHP will continue to work cooperatively with the National Audubon Society to manage and protect Constitution Marsh. Two issues that are of management concern are invasive species and public use.

Invasive plant and animal species threaten the ecology of the marsh. After becoming established, control may be difficult or impossible, such as with introduced populations of Zebra Mussel (*Dreissena polymorpha*) and Chinese Mitten Crab (*Eriocheir sinensis*), but control options for other invasives do exist. An invasive of particular concern in Constitution Marsh is Phragmites, which has fairly recently become established. This species has overtaken nearby Iona Marsh and the resulting impacts on marsh bird populations are well documented. Phragmites is currently present in several distinct patches at Constitution Marsh and Audubon staff are conducting manual control efforts to suppress and eliminate this plant. OPRHP will continue to support and collaborate with Audubon to continue with Phragmites management, as well as to pursue additional control methods for this and other invasive plants, in conjunction with periodic monitoring, in order to maintain this significant Hudson River ecosystem.

Recreational kayaking in the marsh has increased with the addition of Scenic Hudson's public boat launch at Foundry Dock Park in Cold Spring. This park is used by individuals and several commercial outfitters that provide tours and rentals. High counts of 70 individual kayaks have been documented in the marsh at a single point in time (Lind pers. comm. 2009). This high level of use should be monitored, which will allow OPRHP and Audubon to respond to overuse appropriately. Currently the use of a marked water-trail through the marsh, and outreach and collaboration with the recreational paddling community is proving to be effective in limiting impacts to the resource and also in reducing potential conflicts between different types of user groups, such as birders, paddlers, water fowl hunters, and other users. Educational material specifying sensitive species and time periods are distributed by Audubon staff, and rules and guidelines are posted on signs at the marsh and on Audubon and Scenic Hudson websites. The continued presence of contaminated marsh sediments also emphasizes the need for public education as access needs to be limited to periods of high tide not only for adequate boat access, but also to limit sediment disturbance.

Providing additional information on the ecological value and sensitivity of Constitution Marsh on OPRHP's website should be considered. The development of an annual report regarding the management, health and use of the marsh should also be prepared by Audubon for review by OPRHP.

Connectivity

Lands which are adjacent to or connect with both parks should be acquired in order to improve the connectivity between disjoint parcels of the parks and with other nearby protected lands. Protection of these areas from future development will prevent fragmentation and provide greater connectivity on state park lands and with other nearby conservation lands. Larger un-fragmented forest blocks can reduce edge effects and limit access points for invasive species, benefitting the ecological communities and providing better habitat for plants and wildlife (Smith and Lundgren 2010).

Trees and Forests

The extensive areas of mature un-fragmented forests are a defining feature of the region's scenic and ecological character. OPRHP's management of the park's forests will conform with the agency's "Policy on the Management of Trees and Other Vegetation in State Parks and Historic Sites," (OPRHP, 2009b) which establishes a "passive management" approach, allowing natural processes and natural succession to govern the development of forest ecosystems. This policy recognizes that

aging mature trees, standing dead snags, downed trees, and forest openings created by wind and other natural disturbances provide important habitat for many species of birds, wildlife, and other organisms. Downed vegetation, including large trees that are allowed to fall to the forest floor, is important for enhancing forest soils and allowing new forest stands to regenerate in forest openings.

Pursuant to OPRHP policy prohibiting commercial logging activities on all state parkland under the agency's jurisdiction, commercial logging will not occur in either park.

OPRHP recognizes the impact to the hemlock forest in and around the campground at Fahnestock from the Hemlock Woolly Adelgid (an invasive insect species). Given the rate at which the forest is declining, OPRHP will consider regeneration plans for the hemlock forest area to ensure the viability of the campground and forested areas.

Recreation Facility Development and Programs

Trails

The Final Trails Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve 2010 (Appendix B) provides guidance for the upgrading and maintenance of the trail systems to accommodate a variety of year-round recreational uses and provide for educational and interpretive experiences. Key components of the plan include:

- Provide increased trail opportunities and connections throughout the parks' trail systems as well as external connections to trails on adjacent lands, surrounding communities and mass transportation.
- Allow hiking and snowshoeing on all existing, newly developed and newly designated trails (with the exception of groomed cross country ski trails).
- Enhance equestrian and mountain biking opportunities in both parks.
- Increase the groomed cross country ski trail system of Fahnestock Winter Park by one additional loop around Stillwater Pond.
- Maintain existing marked snowshoe trails of Fahnestock Winter Park.
- Designate trails for un-groomed cross country skiing in both parks.
- Enhance trailhead parking facilities in a number of locations.
- Improve trail signage including trailhead and trail intersection signage throughout both parks to enhance the visitor experience and increase patron safety.
- Enhance interpretation of natural, cultural and historical resources along trails.
- Designate trails in Hudson Highlands State Park Preserve as part of the regional Highlands Trail.

Coordination with volunteer groups for the development and maintenance of the trail systems will continue and may be expanded. Newly designated and developed trails will be upgraded to use standards before trails are opened for use. Trail design and maintenance guidelines and resources are provided in the Trails Plan. A long-term maintenance and monitoring plan will be developed to ensure the continued sustainability of the trail system. For more information, see Appendix B –Trails Plan for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve 2010.

Fishing

Fishing access along the Hudson River, Canopus Lake, Pelton Pond, John Allen Pond, and Stillwater Lake will continue. Docks will be added near the Canopus Lake Beach for fishing.

Camping and Overnight Accommodations

Fahnestock

The campground at Fahnestock will be reorganized and improved. Sites 1, 3 and 4, as well as some sites in the 50-59 and 70-81 sections will be relocated to create more space between sites in these areas and to provide an overall better camping experience. The existing showers and restrooms will be renovated and a location for a third restroom and shower facility within the campground will be identified based on the availability of utilities and water and will be constructed. The renovations to existing structures and any new buildings will incorporate sustainable design features to maximize efficiency. These improvements will comply with the Department of Health regulations. In addition, the road in the campground will be resurfaced and graded, but will be maintained as a permeable surface.

Hudson Highlands

The cabins at the former University Settlement Camp are an ideal location to provide overnight accommodations within Hudson Highlands State Park Preserve. The cabins are left over from a summer camp operation and the property is operated under a management agreement with the City of Beacon. The master plan supports the addition of overnight accommodations at this location.

Hunting

Some locations within both parks where hunting previously occurred prior to state acquisition will be opened for recreational hunting. At Fahnestock, shotgun hunting will be expanded at the North Wiccopee area off East Mountain Road. At Hudson Highlands, shotgun hunting will be expanded to the Northeast Fishkill Ridge area off Route 9, and bow hunting will be expanded west of Route 9D. These parcels were historically hunted (prior to OPRHP ownership). All other designated hunting areas will remain open for hunting and be administered in accordance with State hunting rules and regulations. See Figures 19A and 19B for a hunting map of the parks.

Pelton Pond—Fahnestock

The Pelton Pond Use Area will be improved to create a better user experience. The existing comfort station will be renovated and the shelter and picnic area will be refurbished. The existing water service will be replaced to provide potable water to the shelter and water fountains. New tables, grills, and repairs/improvements to the shelter will be made. The parking area will also be redesigned, paved and striped so that it is level with Route 301. In addition, the steps will be replaced and accessibility between the parking lot, comfort station, shelter, and picnic area will be established.

Hubbard Lodge—Fahnestock

Hubbard Lodge will receive a formal parking area with room to accommodate horse trailers (approximately 40 parking spaces). The new parking area will be a pervious surface and will improve access to the trails in the northwest corner of the park. In addition, the new parking area will help facilitate environmental education programming out of Hubbard Lodge and will strengthen the connection between Fahnestock and Hudson Highlands State Parks. Hubbard Lodge will also be utilized as a satellite park office when needed.

Fahnestock Winter Park

The trail system at the Winter Park will be expanded. For additional details regarding the expansion, please refer to the Trails Plan, Appendix B. Upgrades and renovations will also be made to the

concessions building (lodge) and the restrooms / changing rooms to better handle year-round use. The concession building will be expanded and winterized to better handle Winter Park operations (ski rentals, Acorn Café) and new restrooms will be available in the concession/lodge building.

Canopus Lake Boat Launch—Fahnestock

The existing rental area building will be made larger to improve storage for the boats and a small parking area (two or three spaces) will also be created to provide accessible parking. A self-composting toilet will also be sited within the area. There are some picnic tables, but more will be added closer to the shore.

Sand reclamation efforts will occur at the boat launch area to deepen the water in an effort to help improve launching conditions and facilitate boats into the water. A new dock will be installed between the shore and a small island behind the existing rental area. The current parking area across Route 301 will be formalized and made larger to accommodate more vehicles. In addition, it is recommended that a cross walk be installed across Route 301 and signage will be installed along the roadway to alert drivers of the pedestrian crossing.

In the future, when the Department of Transportation proposes any roadwork or decides to realign this section of Route 301, it is recommended that the road shoulder be widened and designed to better accommodate pedestrians and bicyclists.

Canopus Lake Recreation Area—Fahnestock

Buildings and Parking

As discussed earlier in this chapter under the Winter Park section, the buildings at Canopus Lake will be renovated and expanded to provide a better space for both park staff and park visitors. The buildings will be renovated so that they will be available for use all-year. The concession / lifeguard office building will be expanded (potentially by 1,000 square feet) to provide better ski rental and concession services. The bathhouse will be renovated with significant upgrades to the interior space. The restrooms, showers and changing areas will all be redesigned to better accommodate the needs of the park visitor and both facilities will incorporate sustainable and energy efficient design.

The existing parking lot will be paved utilizing a pervious surface. The lot will be formalized (striping) to create a more organized and efficient parking area.

Swimming Area and the Beach

The swimming area and beach at Canopus Lake will be redesigned to provide better swimming and beach facilities. The swimming area will be deepened and new sand will be placed on the bottom. Aquatic vegetation control measures such as a buffer or barrier system will be used within the swimming area. The swimming area will be increased (widened), as well. In addition, it is recommended that other aquatic vegetation control methods be used in upper lake (e.g. winter drawdown, bio-controls).

The beach area will be redesigned. The actual beach area will be reduced and replaced with grass in an effort to achieve a more appropriate aesthetic that better suits the mountain/lake surrounds. The grass and native plant surface around the smaller sand beach area will be easier to maintain for the park staff. It will also reduce sand eroding into the lake during storm events and create a stable surface for other patron activities. All improvements will comply with ADA regulations. See Figure 20 for a conceptual rendering of the improvements to swimming area.

Other Recreation

In addition to swimming, a picnic area and pavilion will be developed within the Canopus Lake Recreation Area. The picnic area's final location will be determined upon further site assessment. A ball field with a backstop will also be created at the field near the parking area. In addition, a playground will be sited near the beach/lakefront to provide another recreation activity for children. The playground will be designed so that it reflects its surroundings to be aesthetically appropriate as it will be visible from the lakefront. Lastly, docks will be installed on the far ends of the beach area. The docks will provide a new area for fishing and will be accessible.

Little Stony Point—Hudson Highlands

Shoreline Access

The shoreline will continue to be used for passive recreation like fishing and picnicking

Parking

The existing, informal parking area across Route 9D will be redesigned to create a more organized parking situation. It will also be paved and striped to maximize the number of spaces in the lot. To improve pedestrian safety it is recommended that a formal crosswalk be installed on Route 9D and additional signage to alert drivers of the crossing. In addition, OPRHP will work with DOT to improve the sight distance by trimming trees and branches that may obstruct the view of the roadway.

Denning's Point—Hudson Highlands

Building One, now called The Center for Environmental Innovation and Education (CEIE), and the parking area are managed by the Beacon Institute. Employees of the Beacon Institute are allowed to drive onto the point and park; however, park visitors may not. This is largely due to the width and load rating of the bridge that crosses the train tracks. It is recommended that the bridge be replaced to improve access to the point. A new bridge would also allow for events and additional programming to occur on the point. It's worth reiterating that this is a preliminary recommendation for the bridge and is subject to supplemental environmental review.

Extension of the Klara Sauer Trail from Denning's Point to Madam Brett Park would improve connectivity in the region by foot or by bicycle.

It is also recommended that OPRHP revisit the agreement with Beacon Institute to ensure that their goals and future direction is inline with OPRHP's goals for the point. The Interim Management Guide for Denning's Point, developed in 2007, should be used to guide most of the management decisions regarding recreation, trails, and environmental education and interpretation opportunities.

Dockside—Hudson Highlands

A management agreement is currently being negotiated with the Village of Cold Spring for public recreation use and will be finalized in the near future.

North Redoubt—Hudson Highlands

North Redoubt, a Revolutionary War fortification, can offer a new opportunity for cultural and historic education and interpretation regarding the region's role during that important time in American history. The current parking situation is limited and it is recommended that land adjacent to the property and the road be acquired to improve the parking. A new parking area would also

create a more defined trailhead and access point to the area. In addition, it is recommended that either an interpretive trail or signage be developed at this location.

Arden Point—Hudson Highlands

Located in the hamlet of Garrison, Arden Point has incredible views of the Hudson River and West Point. The entrance to the trail should be improved to better identify the trail, that Arden Point is part of Hudson Highlands State Park Preserve, and any other pertinent trail information (maps, etc).

Annsville Paddlesport Center—Hudson Highlands

Annsville Paddlesport Center is a relatively new facility and was considered during the planning process. No changes are proposed to this activity area under the master plan.

Bear Mountain Overlook—Hudson Highlands

The scenic overlook on the Bear Mountain Bridge Road was re-designed and improved several years ago. The parking was separated from the highway and interpretative signage was installed. The area provides impressive views of the Hudson River and the western Hudson Highlands, and is a popular observation site for birders.

Indian Brook Falls—Hudson Highlands

Indian Brook Falls was considered during the development of the master plan and no changes are proposed to this area under the master plan.

Environmental Education and Interpretation (EE&I)

Interpretive opportunities are offered by the diversity of flora, fauna, topography, and other natural resources of both parks. As mentioned earlier in the master plan, the Taconic Outdoor Education Center (TOEC) provides EE&I to school groups and offers programs to the public interpreting the natural environment of Fahnestock. At Hudson Highlands, Audubon offers programming associated with Constitution Marsh and numerous other organizations also offer programming. With the master plan recommending the development of the visitor center at Hudson Highlands, and additional parking at Hubbard Lodge at Fahnestock, there will be new opportunities for other park partners to improve and expand EE&I at both parks.

Cultural Resource Protection

Cultural and Historic Management, Education and Interpretation

Both Fahnestock and Hudson Highlands have numerous opportunities for education and interpretation of their various cultural and historic resources. Both parks will continue to maintain, support and expand partnerships with various entities regarding interpretive and educational programming.

A historic resource inventory will be conducted in both parks to document these resources and promote further research. The addition of the visitor center at Hudson Highlands will afford a new opportunity for interpretive programs and materials regarding the history of the region and direct park visitors to historic areas of importance within the park. Both parks will have interpretive trails that are recommended within the trails plan, Appendix B, as well. Additional research will be conducted to better understand the extensive history of both facilities.

Archaeological Resources

Archaeological artifacts have been located within both park including objects from previous military activities, farmstead settlements and Native American presence. Any new ground disturbing development may require a Phase 1B survey to identify any archaeological significance before development begins. Projects which are not ground disturbing will not require archeological clearances.

Bannerman's Island—Hudson Highlands

The ruins of the arsenal building and the ruins of the residence were considered during the planning process, but no changes are proposed to either at this time.

Harriman Toll House—Hudson Highlands

The Harriman Toll House was considered during the planning process but no changes are proposed at this time.

Other Structures

Fahnestock

There are buildings and structures within Fahnestock are eligible for listing on the National Register of Historic Places and the park itself, initially developed during the CCC era, is also eligible for listing on the National Register. It is recommended that approximately 3,000 acres of Fahnestock be nominated to the National Register of Historic Places.

Hudson Highlands

The former University Settlement Camp and its building are eligible for listing on the National Register of Historic Places. The vast majority of land encompassing Hudson Highlands State Park Preserve is already included under an earlier nomination. The University Settlement Camp and its buildings date back to the early 20th century (approximately 1910) and the camp served as a place for children from New York City to experience nature and to learn community building and other life skills. The majority of the structures remain in tact, specifically, the theatre and administration building. It is recommended that the 50 acres that comprised the former University Settlement Camp be nominated to the National Register of Historic Places.

Scenic Resource Protection

Hudson River Viewshed and Scenic Landscape Management

The Hudson River viewshed will be protected and considered in the design and location choice for the proposed visitor center in Hudson Highlands. The design of the building will incorporate materials that blend with the surroundings and special attention will be given to its placement to ensure views of the valley are captured and the view from the river is not diminished.

Views of the Hudson River will be enhanced along various trails through the selective removal of trees or shrubs at key points along the trail system. Existing vista points will be maintained.

Future land acquisition at Hudson Highlands will consider sites which enhance protection of the scenic character of the Hudson River.

Scenic viewpoints will be improved and maintained in accordance to the OPRHP tree management policy. In addition, views from and behind Hubbard Lodge, Bear Mountain Overlook, East

Mountain, Round Hill, and Bannerman's Island platform off Route 9D will also be maintained. Existing open areas at the former Woodle property and south of the Glynwood Center will also be managed as open meadows or fields. Trees will be removed at the northwest corner of the intersection of Routes 301 and 9 to restore the open area.

Operations

Park Office—Fahnestock

A new park office will be constructed in the old Winter Campground area. The new office will be located in a more central location to the campground and the beach and will be accessible by car or by trail (from the campground and the Pelton Pond area). The new structure will be approximately 1,200 square feet and will provide parking for 10 vehicles. The building will be designed to maximize efficiency and will incorporate sustainable design concepts.

Visitor Center—Hudson Highlands

A new visitor center will be built off Route 9D near the southern boundary of the City of Beacon in the Town of Fishkill. The building will provide a much-needed point of public contact within the park and will provide a venue for environmental, cultural and historic interpretation and education through permanent exhibits, signage and interactive programming. The structure will be approximately 1500 square feet and will utilize sustainable design concepts. The building will be sited and designed to overlook the Hudson River while remaining inconspicuous. In addition, the building will also have public restrooms and office space for park staff.

Infrastructure

Former Downhill Skiing Area—Fahnestock

The former downhill skiing area will undergo significant changes. Two of the three existing buildings will be demolished. They include the former ski rental building (closest to the Taconic State Parkway) and the former ski lodge building (behind the rental building and up the hill). These structures have been underutilized and have no historic significance to the park. The third building is currently occupied by the New York State Police and other local law enforcement agencies under an agreement and their use of the building will continue. Lastly, the large parking area adjacent to the Taconic State Parkway will be decreased and native vegetation will be planted. A small parking area will remain for use by the State Police and search and rescue staging.

Buildings for Demolition

All of the structures in the park were carefully assessed during the planning process. The following structures have been recommended for demolition. Once demolition occurs, the areas will be assessed for future use. It's worth noting that the removal of these structures and their impervious surfaces far exceed the proposed new construction.

Fahnestock

The following buildings will be demolished:

- Sewage Treatment Plant
- South Zone Police Building (vacant/storage)
- Old Ski Lodge (vacant/storage)
- Storage Shelter

- Repeater Building
- Pump House
- Cook's Cottage
- Gas Shed
- Wiccopee Barn
- Old Ticket Booths (no longer in use)

Hudson Highlands

The following buildings will be demolished:

- Route 9D Residence in Fishkill
- Browne House
- Brick Structures west of Dutchess Junction Park
- Arden Point Ruins (3 structures)
- Woodle House

Maintenance

The maintenance area at Fahnestock will remain in its current location. The existing park office will be utilized for maintenance and storage upon completion of the new park office. This maintenance facility serves both parks.

Roads and Parking

The roadway layout will remain largely unchanged at both parks; however, parking improvements will be made. At Fahnestock, the main parking lot at Canopus Beach will be formalized with paving (most likely pervious) and striping. This will most likely result in the addition of approximately 5-10 additional parking spaces. The parking area at Pelton Pond will be redesigned and the parking area at the Canopus Lake boat rental will also be improved and formalized and may also yield additional spots. A new parking area with approximately 40 parking spaces will be developed at Hubbard Lodge to help facilitate trail uses and will support programming. The parking areas adjacent to Route 301, at both the peninsula on Canopus Lake and at the Appalachian Trail, will also be formalized with striping and pavement improvements.

At Hudson Highlands, a new entrance road and parking area is proposed at the proposed visitor center off Route 9D to support programming and trail access. Parking improvements at Little Stony Point, North Redoubt, and Denning's Point are also proposed and were discussed in earlier sections of this chapter.

Bridges

A multi-use bridge will be constructed over Route 301 between the campground and the beach road at Fahnestock. The bridge will create a safer crossing for pedestrians, cross-country skiers and other users. The bridge will be designed in consultation with the New York State Department of Transportation (NYSDOT) as it will traverse a state roadway.

Dams

Dams will be maintained by park management in accordance with the annual Inspection and Maintenance Plans. Park management will implement actions identified in Inspection and Maintenance Plans for each dam. Please refer to Chapter 3 for a complete listing of the dams of the parks.

Signage

Trail signage and park signage will be developed to have a cohesive aesthetic that represents OPRHP and the Taconic Region. The goal is for park visitors to know they're in a State Park based on a sign's design, color and font and for that sign to be recognizable throughout the region.

Land Acquisition

OPRHP will evaluate and consider acquisition of fee or easement interests on adjacent properties or existing in-holdings for purposes of recreation and resource protection, as they become available. Emphasis will be placed on consolidating areas of high natural resources value, protecting scenic character, connecting existing portions of the parks, and securing easements and agreements for trails and parking. OPRHP will continue to work with public and private partners for land acquisition.

Sustainability

In keeping with a strong commitment to sustainability, OPRHP will continue to increase the incorporation of sustainable practices into its daily operations. In addition, OPRHP will implement the following measures within the park.

- Parking Lots and Roadways – New parking lots and any improvements to existing parking areas will utilize pervious paving material where feasible.
- New Structures— New buildings will incorporate sustainable design elements such as day-lighting, recycled materials, solar and passive solar design, and geo-thermal technology.
- Vehicles and equipment – Alternative fueled and energy efficient vehicles and equipment will be considered upon replacement or purchase.
- Renewable Energy – The agency will explore the harnessing of renewable energy sources, such as solar panels and geothermal heating systems. Heating and cooling improvements will be added, where possible, such as attic fans to decrease the energy use of air conditioners, and centralized air to replace wall units.
- Maintenance – The use of alternative fueled equipment and alternative fuels such as solar, electric and propane fueled equipment and bio-based products (including soy based chain-saw oil and biodegradable products) will be considered. The proper storage and disposal of chemicals and fuels, limiting the storage of chemicals on site to the quantity which can be used in one year, and the proper clean-up of spills shall all remain a high priority for the park maintenance staff. The recycling of used oils, batteries and metal will be continued.
- Trails – Sustainable trail construction practices will be utilized to reduce maintenance needs and erosion from water run off.
- Waste disposal – The Carry in/Carry out Policy will remain in place. Visitors will continue to be educated on the policy and be encouraged to participate in solid waste reduction and recycling programs. Signage will be considered to encourage visitors to recycle. Park staff will continue recycling in the park office.
- Water Conservation – The park will continue water conservation measures including the use of low flow fixtures. The use of green infrastructure techniques such as rain barrels can be used to minimize water use and reduce runoff.
- Wastewater –The outdated water treatment systems will be upgraded to improve wastewater treatment.
- Vegetation - Upon the replacement of mowers and grass trimming equipment, sustainable or alternate fuel equipment will be considered. If plantings are needed, native species will be used to reduce water and maintenance requirements.

- Education – Staff will educate visitors on the park’s sustainable features. Sustainability will be a component of the interpretive plan for the park. Interpretive panels and displays will be added to educate visitors on what they can do to lead a more sustainable lifestyle.
- Energy Efficiency – Existing systems will be audited and re-commissioned to improve energy efficiency.
- Pest Control – The use of pesticides will be in accordance with the Agency’s Pesticide Reduction Policy. Integrated Pest Management (IPM) and organic pest control methods will be utilized.
- Waste Reduction – A concerted effort will continue to be made to reduce office/administrative waste, construction and yard/food waste. On-site composting will be explored and considered.

Safety and Security

The safety and security of park staff and visitors is maintained by permanent and seasonal staff with support from Park Police. Recommendations concerning safety and security are described below.

- Signage will be erected on kiosks and at key locations in the park with language warning of potential risks and providing emergency contact information. Since some trails are adjacent to steep descents and cliffs, extreme caution must be exercised in all areas.
- Brochures and kiosk panels with maps will provide information on trails to assist with visitor orientation. Emergency contact information will be provided on brochures and maps.
- Park staff will continue to remove hazardous trees near roadways, trails and other use areas under the OPRHP Tree Removal Policy to protect patrons and staff. Patrons are encouraged to report hazardous or overhanging trees.
- Park staff will continue to work with Park Police and local law enforcement to ensure no illegal activity is occurring in the parks.
- All buildings, petroleum storage and water systems will continue to be maintained in accordance with current New York State and Federal laws, standards and inspections.
- Vehicular access will remain in the current configuration, which will minimize potential vandalism and traffic incidents throughout the park.

Implementation

Timeline

The master plan sets forth OPRHP’s vision for capital improvements and operational enhancements to the park. The pace and sequencing of recommended actions will be determined by the availability of funding.

The master plan presents a vision for the rehabilitation, protection and construction of improvements to the park. The following items will be considered during the implementation of the master plan.

- The plan components shall be incorporated into the annual operating plans and budgets for the park.
- The plan will be reviewed annually to identify projects that will be considered for implementation and to assess the progress of plan implementation.

The implementation of the master plan for the park is divided into two priority phases, as well as ongoing actions. The activities identified in the table below are conceptual and subject to reorganization based on available funding for specific components in any given group.

Table 4 - Implementation Priority List

Immediate Action	Description/Development Component
	<ul style="list-style-type: none"> Designate Hudson Highlands as a Park Preserve and a Park Preservation Area in Fahnestock.
	<ul style="list-style-type: none"> Expand the BCA at Fahnestock and designate a second BCA at Hudson Highlands.
	<ul style="list-style-type: none"> Designate Natural Heritage Areas in both parks.
Priority 1	
	<ul style="list-style-type: none"> Conduct cultural resource inventories at both parks.
	<ul style="list-style-type: none"> Expand trail system at Winter Park and renovate buildings in the Canopus Beach Complex.
	<ul style="list-style-type: none"> Construct new park office and parking area at Fahnestock.
	<ul style="list-style-type: none"> Demolish designated buildings at both parks.
	<ul style="list-style-type: none"> Implement trails plan (improvements/changes to the existing trail systems, new shared-use—hiking, biking, equestrian—trails).
	<ul style="list-style-type: none"> Relocate campsites at the Fahnestock Campground, construct new bathroom / shower facility and improve campground road.
	<ul style="list-style-type: none"> Begin improvements and rehabilitate the Pelton Pond day use area.
	<ul style="list-style-type: none"> Renovate and expand Canopus Beach complex. Implement sand reclamation/dredging projects at Canopus Beach and install playground, beach area improvements, and fishing docks.
	<ul style="list-style-type: none"> Rehabilitate the peninsula at Canopus Lake.
	<ul style="list-style-type: none"> Develop new parking area at Hubbard Lodge.
	<ul style="list-style-type: none"> Rehabilitate and improve launch and parking area at Canopus Boat Launch area, including the development of an accessible parking lot.
	<ul style="list-style-type: none"> Implement trailhead parking improvements, including formalizing existing parking areas, signage improvements and crosswalks where applicable utilizing pervious paving materials whenever feasible.
	<ul style="list-style-type: none"> Improve parking lot at Little Stony Point by paving and striping the existing parking area. Install crosswalks and improve sight distance.
	<ul style="list-style-type: none"> Renovate cabins at TOEC and the lodge to improve the energy efficiency and to enhance the visitor experience.
	<ul style="list-style-type: none"> Design and construct the visitor center and parking area at Hudson Highlands.
	<ul style="list-style-type: none"> Revisit agreements with the Little Stony Point Citizens Association, the Appalachian Trail Council, the Beacon Institute, and finalize agreement with the Village of Cold Spring at Dockside.
	<ul style="list-style-type: none"> Develop Invasive Species Management Plans for both parks.
Priority 2	
	<ul style="list-style-type: none"> Replace bridge and improve recreational access at Denning’s Point.

	<ul style="list-style-type: none"> • Develop a multi-use bridge over Route 301 between campground and Canopus Beach.
	<ul style="list-style-type: none"> • Work with the City of Beacon on implementing overnight accommodations at former University Settlement Camp.
	<ul style="list-style-type: none"> • Nominate 3,000+/- acres of Fahnestock to the National Register of Historic Places.
	<ul style="list-style-type: none"> • Improve access to North Redoubt.
On-Going	
	<ul style="list-style-type: none"> • Continue managing scenic landscapes and vistas and begin managing historic landscapes and vistas that require rehabilitation.
	<ul style="list-style-type: none"> • Continue implementation of the following natural resource management strategies: deer, invasive species, summit communities, rare and endangered species, wetlands, stream, and aquatic invasive species.
	<ul style="list-style-type: none"> • Continue trail maintenance.
	<ul style="list-style-type: none"> • Undertake dam maintenance and improvements at both parks.
	<ul style="list-style-type: none"> • Continue land acquisition in both parks to improve connectivity and expand buffers.
	<ul style="list-style-type: none"> • Assess cooperative management and operations agreements on an annual basis.
	<ul style="list-style-type: none"> • Implement a cohesive signage aesthetic for the highlands region.
	<ul style="list-style-type: none"> • Establish and secure easements for existing informal trail access agreements with various organizations/agencies.
	<ul style="list-style-type: none"> • Continue environmental and cultural education and interpretation.
	<ul style="list-style-type: none"> • Open additional areas for recreational hunting in both parks and begin studies to further expand hunting in the parks.

Actions Proposed Outside the Park

Development actions outside of the park boundary that are proposed within the viewshed of the park may have an impact on the park’s resources and park visitor’s experience. Such actions are of interest to the agency but such proposals are not considered within the scope of this master plan. The agency will, however, monitor projects that could impact the park and will participate in their environmental review as appropriate.

Supplemental Environmental Review

Some items recommended in the Master Plan are conceptual at this time and will require additional review under SEQR. Specifically, the proposed Visitor Center at Hudson Highlands, the proposed bridge improvements at Denning’s Point, the proposed parking and access improvements at North Redoubt, and any repairs or improvements to the many dams in the parks.

Relationship to Other Programs

OPRHP continues to be committed to partnering with groups that are interested in furthering the mission of the parks. There are dozens of entities in the vicinity of Fahnestock and Hudson Highlands conducting research, managing parks, forests, preserves and historic properties, offering recreational and educational programs and services, conserving land, and implementing local, State and Federal programs. The wealth of opportunities to collaborate with this array of related efforts is represented in the existing range of cooperative agreements. The potential to expand these associations is substantial and considered beneficial to the long-term success of the parks. Expanding these efforts should continue. The park staff is interested in working with other outside planning groups to further the park's contribution to and participation in the recreation resources of the area. Partnerships with local groups such as the Friends of Fahnestock / Hudson Highlands will continue in an effort to improve the parks.

The park, through the regional office, continues to reach out to the larger service area to encourage individuals, groups and other federal and state agencies to contribute to the park.

OPRHP will continue to work with New York State DEC on management issues common to the park and the adjacent Castle Rock Unique Area and California Hill Multiple Use Area.

Chapter 7- Environmental Impacts and Mitigation

Introduction

Consistent with the intent of the State Environmental Quality Review Act (SEQRA), environmental factors were considered in evaluating the plan alternatives and in selecting the preferred alternative, i.e., the Draft Master Plan, which is described in Chapter 6. Chapter 7 focuses on environmental impacts and mitigation of adverse effects. For the purposes of SEQR compliance, however, the entire document (Master Plan/FEIS) satisfies the requirements for an environmental impact statement as specified in Part 617, the rules and regulations implementing SEQR. The environmental setting is discussed in Chapter 3 and Chapter 5 and Appendix A contains the alternatives analysis.

This chapter has two primary parts: a summary of environmental impacts associated with alternatives and a more detailed analysis of impacts associated with implementation of the Draft Master Plan including a discussion of mitigation measures.

Impacts of Alternatives

In Chapter 5 and Appendix A, alternative management and development directions were developed for the parks using information on existing conditions, the analysis of recommended directions for activities, and constraints and considerations identified in the resource analysis. The preferred alternative for the both parks (i.e. the Draft Master Plan) consists of the best alternative for each identified activity and resource.

Much of the information on the environmental impacts of alternative actions is discussed in Appendix A. The following is a summary of the findings from the impact analysis.

Status Quo Alternative

The Status Quo alternative consists of the current facilities, programs and practices as described in Chapter 3 (Environmental Setting). Under this alternative, the current resource protection, operation, and facility management practices would continue. The increasing demands on both parks would not be addressed or impacts mitigated. Any improvements would be assessed on a case by case basis.

The Status Quo alternative would result in no disturbance from proposed development, including roads, parking, buildings and infrastructure needs. While this alternative would ostensibly not result in any additional adverse environmental impacts, the potential for long-term indirect adverse environmental impacts is likely, since there would be no plan to guide use and implement protection measures. It is predicted that additional demands will be placed on the park's resources. Natural resources may be degraded without adequate planning and measures to assure their preservation. Projects that may be undertaken on an as-needed basis would require individual reviews under SEQR. The Master Plan directs the manner in which use and development should proceed to protect sensitive areas of the park and reduce the potential for adverse impacts on environmental resources. It also lays out what projects may proceed under the Master Plan/EIS as well as those that may require additional review.

Preferred Alternative and the Draft Master Plan

The preferred alternative is the compilation of the preferred recreation activity and resource stewardship options identified in Chapter 5. This compilation at the end of Chapter 5 and within Chapter 6 was subject to a final evaluation (or synthesis) to assure that there was consistency among the various alternatives. The draft master plan, described in Chapter 6, provides considerable

recreational and resource protection benefits. This Draft Master Plan/EIS also identifies potential adverse impacts, both short and long term, as well as ways to minimize, if not eliminate them to the fullest extent possible through appropriate mitigation measures. Impacts and mitigation, in addition to information provided in Chapter 5, are discussed in the sections following. From a long-term perspective, implementation of the Master Plan will result in a beneficial environmental impact by insuring that the most sensitive areas of the parks will be identified, monitored and provided appropriate stewardship and that the various systems and the services are maintained, preserved and protected.

Potential Environmental Impacts associated with Implementation of the Master Plan

Land Resources

The master plan will result in some physical changes to the land where new recreation facilities and trails will be constructed or relocated, or where existing facilities will receive rehabilitation. The following projects proposed under the master plan will involve construction within the same “footprint” of existing use areas and will involve minimal disturbance of undeveloped areas:

Fahnestock:

- Reduction in size of the former ski area parking lot and restoration with native plantings
- Relocation of several campsites, construction of a new campground shower building/comfort station and improvements to the existing roadway (resurfacing, grading and drainage).
- Rehabilitation of the Pelton Pond picnic area, including renovations to the existing bathrooms, ADA accessibility upgrades and raising of the elevation of the existing parking area
- Improvements to the Canopus Lake boat launch/boat rental area including expansion of the rental booth for boat storage, adding two accessible parking spots near the boat launch deepening the launch area (sand reclamation) and formalizing of the parking area across Route 301.
- Shoreline restoration of the peninsula area on Canopus Lake for fishing access and formalizing of the associated parking lot
- Rehabilitation and renovation of the Canopus Lake recreation area including an approximately 1000 square foot expansion of the bathhouse, reconstruction of the beach, formalization of the parking area and addition of a picnic area, a ball field, pavilion, fishing access and a playground; development of a dredge spoil disposal area
- Construction of a new park office and parking lot within the former winter campground area
- Improvement to the trailhead parking areas on Route 301
- Construction of 70’-90’ by 8’-15’ pedestrian bridge over Route 301 to the east of the entrance to the Canopus Beach Recreation Area
- Improvements to road and dock at Stillwater Lake
- Rehabilitation of the remaining cabins and lodge at TOEC
- Building demolitions

Hudson Highlands:

- Improvements to parking at Little Stony Point and the Metro North lot
- Building demolitions

The master plan calls for three projects that will be developed in currently undeveloped areas. One is the additional parking lot at Hubbard Lodge that will be located between Route 9 and the former Old

Albany Post Road alignment within an old field area. Another at Fahnestock the new pedestrian bridge will be built over Route 301 and will affect currently undeveloped forested areas on either side of the road. Finally, the new Hudson Highlands Visitor Center which has been conceptually sited on the east side of Route 9D south of the boundary for the City of Beacon. This is currently an overgrown field, although some of the footprint of an existing house that is to be demolished may be used as well. This project will require additional environmental review.

For all of the above listed projects, plans and specifications will incorporate measures to minimize land impacts. Sedimentation and erosion impacts will be minimized through the use of Best Management Practices as described in the New York Guidelines for Urban Erosion and Sediment Control (USDA-SCS, 1989). This includes incorporating information into the project plans on the soil characteristics at each project site and the limitations of soil types with respect to storm water management and erosion. It also includes the use of various techniques such as silt fencing, preservation of vegetated buffers and seeding and mulching of disturbed areas as soon as possible. Pervious pavement, vegetated drainage swales and proper drainage design will be used in the design of new parking areas to help mitigate water quality impacts from runoff following storm events. Disturbed areas will be restored using native vegetation following construction. Green design will be utilized for the buildings as much as possible to minimize the effects of roof runoff. Projects that will disturb one acre or more will be subject to the State Pollution Discharge Elimination System (SPDES) General Permit process. This process will require the preparation of a site-specific Storm water Pollution Prevention Plan (SWPP.)

The Final Trails Plan calls for changes to many trails in the park and these will have an impact on land as well. The table below shows the changes. There will be 6.7 miles of new construction (i.e. trails to be built in currently undeveloped areas) and 27.1 miles of newly designated trails which will follow existing alignments. In addition there will be 11.7 miles of trails that will be formally closed.

Table 5 - Changes in Trails

	Changes to Trails (in miles)		
	New construction	New designation	To be closed
Fahnestock	3.2	10.8	5.7
Hudson Highlands	3.5	16.3	6
Total	6.7	27.1	11.7

New trail construction will include review of final trail layouts in the field by appropriate agency staff (e.g. Park Manager, Regional Natural Resource Steward) to ensure consistency with trail standards and protection of sensitive resources. New trail sections and possibly some existing trails to be designated will require vegetation removal and grading. Disturbance will be limited primarily to the required width of the trail corridor. The policy and guidelines for trail building that have been established by recognized trail organizations and governmental agencies will be followed; a compilation of standards that OPRHP uses is provided in Appendix B. These established guidelines will assure that work will be completed in a manner that maximizes the protection and preservation of the resources of the park. Trails to be closed will use appropriate and sustainable closure methods and will be restored using native vegetation, as necessary. Sections of existing trails that are currently causing erosion will be evaluated on a case by case basis and stabilized or realigned to a more sustainable route. The goal of all trail work in both parks is to have trails that provide access to the resource without adversely affecting it.

No work will occur on slopes greater than 15% with the exception of the shoreline restoration at the Canopus Lake peninsula area and some trail rehabilitation. The peninsula area project will include the use of silt curtains during construction to minimize the erosion and sedimentation into the lake.

Overall this project will eliminate the current erosion that is occurring at this location from trails and shoreline fishing.

The new pedestrian bridge will connect to the existing elevated topography on either side of Route 301 as much as possible. There will be abutment construction necessary but it is anticipated that this work will be primarily adjacent to the road right-of-way.

In addition, a number of trails, especially within Hudson Highlands, have steep sections of terrain that are experiencing erosion. These sections will be assessed on a case by case basis to determine the best means for either realigning these sections of trails and or stabilizing the existing routes through the use of erosion control techniques or trail hardening techniques. Steep trails and erosion-prone areas will be improved or closed as appropriate. Increased enforcement of ATV activity, which is causing erosion in many areas, will also reduce impacts on park resources.

Water Resources

It is not anticipated that the implementation of the Master Plan will have significant adverse environmental impacts on water resources within these parks. The “Land” impacts section above included discussion of how construction of new park facilities will minimize impacts from sedimentation and erosion to protect water quality.

The following projects will have site specific water quality impacts:

Docks at Canopus Boat Launch

The Master Plan proposes the installation of a small floating dock system on Canopus Lake by the current boat rental/launch area. The dock system will include a ramp that will attach to a new concrete bulkhead on the shoreline. The new bulkhead will be installed above the water line. One to two anchors will also be attached to the docks and will rest on the bottom of the lake. The dock system will be removed seasonally to prevent ice damage. All necessary DEC and USCOE permits will be obtained and erosion and sedimentation controls will be used during construction of the bulkhead.

Dredging/Sand Reclamation Projects

The Master Plan includes maintenance dredging in two areas; the boat launch area on lower Canopus Lake and the beach on upper Canopus Lake. These projects will have temporary short term adverse impacts on water quality during dredging operations. In the long term they will have significant beneficial impacts on recreation by providing adequate depths and improved aesthetics.

The boat launch area is currently very shallow and the bottoms of the rental boats are damaged when they are launched or removed. Minor deepening of the area through sand reclamation directly in the vicinity of the end of the launch ramp will significantly improve the use of the launch by staff and patrons, and provide a longer life for the rental boats.

The dredging of the swimming area within Upper Canopus Lake will be done to improve conditions for park patrons. At present the swimming area is shallow, the bottom is silted and the area contains a heavy growth of the invasive plant Eurasian watermilfoil (*Myriophyllum spicatum*.) OPRHP staff consulted with DEC Bureau of Water Assessment and Management staff in the Division of Water for recommendations regarding the management of this portion of Canopus Lake. The watermilfoil issue and the preferred alternative are based on the information received from that consultation.

The goals of this project are to make the swimming area somewhat deeper, the bottom more aesthetically acceptable and, with the addition of “buffer zones,” provide for better control of excessive aquatic vegetation growth. Dredging will remove undesirable bottom sediments within the

swim area and replace it with clean sand. The swim area will also be widened somewhat from its current configuration. Removal of the bottom material will include the removal of plant material including the root systems. Although milfoil will grow in sand, it's a less preferred substrate for the plant than the natural silty lake bottom. Dredging will require the removal of 8-9 feet of sediment in order to get all of the root structures. As a result, it is estimated that 7,200 cubic feet will be dredged.

Once the dredging is completed sand will be placed in the bottom of the swimming area. The existing sand beach is proposed to be reduced in size and this sand may be able to be used for this purpose. A 15 foot buffer zone will be created around the bottom of the swim area in the lake. This buffer zone will help to decrease the amount of milfoil that drifts into and subsequently roots in the swim area. At present it has not been decided how the buffer zone will be created. A silt curtain will be installed prior to the start of the work to prevent turbidity and sedimentation impacts to the surrounding lake. This will be monitored and maintained throughout construction and will remain in place until water quality conditions within the dredged area are the same as they were prior to the start of work.

Prior to dredging, the level of Upper Canopus will be lowered as much as possible to allow work to be done "in the dry" using standard earth moving equipment and to minimize siltation impacts to the rest of the lake. It is expected that aquatic life will be able to survive in the remaining section of lake, until the lake can be refilled from the lower lake once construction is complete.

During the reconstruction of the beach area sand will be removed and lawn or naturalized areas will be created in portions of the existing beach. This work may also involve the use of silt fencing or other erosion control measures along the lake shoreline to protect water quality in the lake.

Dredged material will be disposed of in an upland location within the park in an appropriate location so it will not impact other water bodies or sensitive environmental areas. Silt fence will be installed around the spoil area and the spoil area will be planted with a seed mix of native grasses to prevent erosion. If there is not an acceptable upland location within the park, the sediment will be disposed off site in an approved landfill facility. All work will be in accordance with applicable DEC and US Army Corps of Engineers permit processes and reviews.

Trails

The Trails Plan included a trail assessment effort that identified several trails that may be causing water quality impacts. There are existing trails with identified drainage issues, including locations with standing water and seasonally wet areas as well as trails that are located adjacent to wetlands, streams, ponds, or lakes that by their design or location may be causing water quality impacts to those resources. While providing access to the park's water resources is an important component of the trails plan, proper design is critical near these resources to insure that inadvertent impacts on water quality or aquatic habitat are not occurring. The Trails Plan recommends that these trails be further assessed on a case by case basis to determine the best course of action for avoidance of impacts to water quality. In some cases, trail realignment to provide an additional buffer area may be required. In other cases, additional design features or signage may be necessary. This work will minimize impacts to water resources and water quality.

New trails or newly designated trails will be designed to insure that adequate vegetative buffer areas are maintained between the trail and any adjacent water resource and that the design is sustainable and will not result in erosion or bank destabilization.

Stream and River Protection

There are more than two dozen streams that comprise 48 miles of riparian area within both parks. In addition OPRHP owns approximately nine miles of Hudson River shoreline. Impacts may be

occurring due to inappropriate trail, bridge or culvert design or lack of maintenance of these structures. Of great concern is the impact ATVs may be having on some stream areas and added enforcement will mitigate these impacts. Additional information about park streams is needed in order to determine the priority and type of restoration actions needed. OPRHP has worked with DEC's Hudson River Estuary Program "Trees for Tribs" Initiative on other streamside restoration projects and will continue to partner with them regarding potential projects within these parks as well. The proposed improvements to the former DPW parking area on Route 301 will incorporate a vegetated stream buffer area which will reduce the impacts of runoff from the lot on stream water quality.

Wetlands Protection

Both parks contain extensive wetland areas. These resources serve many important functions from plant and wildlife habitat to flood protection. The Draft Master Plan calls for protection of these resources. None of the proposed rehabilitation or development projects will be located within 100 feet of any wetlands with the exception of the new park office at Fahnestock. In this case the access road will be adjacent to a small federally regulated wetland and no filling of this wetland is proposed. The presence of a substantial amount of bedrock in the vicinity will only allow for a small buffer area. As the design is developed, consideration will be given to increasing or improving the wetland buffer to provide further protection of this small wetland.

As mentioned above, there will be assessments of existing trails near wetlands to identify any that are inadvertently impacting these areas. This will be followed by restoration of impacted areas on a case by case basis.

OPRHP will continue to work closely with National Audubon to continue to protect Constitution Marsh as one of the premier wetlands within the entire Hudson Valley. This will include continuing to support Audubon in control of Phragmites in the marsh, and to increase public knowledge about the natural resources of the marsh, as well as its recreational carrying capacity.

Air Quality

Potential air quality impacts as a result of Master Plan implementation will be minimal. The Master Plan is not expected to increase use of either park significantly and therefore additional vehicle exhaust will not be significant.

Short term temporary air quality impacts may occur due to a minor temporary increase in vehicle exhaust and some generation of dust during construction. These will be temporary and localized and as the plan will be implemented over time these impacts are not expected to result in significant impacts to air quality.

Biological Resources/Ecology

OPRHP, the New York Natural Heritage Program, National Audubon and other organizations have all noted that both parks contain very significant natural resources. The importance of these resources has been carried through the entire master planning process from the development of the vision and goals to analysis and selection of preferred alternatives. The Natural Heritage Area, Park Preserve and Park Preservation Area designations will raise the awareness of these resources and call for increased interpretation of them as well. These designations are recognition of these areas as invaluable and irreplaceable parts of the state's natural heritage.

Limited new development is proposed in both parks. Direct impacts associated with proposed improvements are expected to be minimal since those projects have been sited in areas with previous development, limited environmental sensitivity and which generally possess accessibility to, and use

of, existing infrastructure. This includes those projects that are within existing development footprints, as well as the projects which will be built in currently undeveloped areas (see listings under “Land” above.).

The Trails Plan has also recognized the significance of the natural resources and incorporates measures for review of new trail layouts in the field by appropriate agency staff (e.g. Park Manager, Regional Natural Resource Steward). This review will ensure consistency with trail standards and protection of sensitive resources. Existing sections of trails that align near sensitive natural areas such as rare species populations, water resources or significant ecological communities will be assessed on a case by case basis to determine ways that inadvertent impacts caused by recreational use can be mitigated.

The Master Plan calls for continued monitoring of surrounding land uses to insure that adjacent development does not impact the park’s biological resources. The plan also calls for increased enforcement of ATVs and other off-road vehicles; particularly in the northern sections of both parks. Although these vehicles are not allowed in state parks, there is evidence of damage to natural systems that shows their use both on and off existing trail networks. Increased enforcement will prevent further damage to natural communities and allow them to recover.

Significant Ecological Communities

Fahnestock has five ecological communities that are considered significant from a statewide perspective and Hudson Highlands has eleven. These communities comprise a substantial percentage of both parks and their protection is a task that is broad in scope. None of the proposed recreational facility rehabilitation or development will take place within significant communities, with the exception of some trail proposals and new pedestrian bridge. The bridge will be constructed within a section of Hemlock-Northern Hardwood community, but impacts will be contained to the areas directly adjacent to the Route 301 right-of-way.

No trails will be constructed through significant Summit communities. As noted in the plan, the Summit communities have been identified by the Natural Heritage Program as particularly vulnerable to recreational pressures. Some proposals in the Trails Plan, however, include trails that will lead to summit areas. Continued monitoring of these areas will be critical in identification of impacts that may occur from increased use and mitigating them based on site specific conditions.

Trails through existing trail-less portions of the parks in particular, should be monitored regularly to determine if significant negative ecological impacts are occurring from recreational use.

Mitigation of recreational impacts will include education of hikers and paddlers to encourage them to stay on designated land and water trails through the use of brochures or signs. Improved trail delineation in summit areas through the use of rock cairns may assist hikers to stay on trails as well. Care will be taken in the movement of any rocks in these ridgeline communities to avoid displacing shelter rocks used by snakes and lizards. In some cases trails may need to be realigned to avoid sensitive habitat areas or rare species. The development of new non-motorized trails will be allowed within the proposed Park Preservation Area at Fahnestock.

Development of a fire management plan will benefit the summit communities that include rocky summit grassland, pitch pine-oak-health rocky summit, red cedar rocky summit and chestnut oak forest communities. Fires are extremely important for the maintenance of the natural integrity of these communities and many rare species within the park depend upon the open habitat they provide. By having a plan in place, it can inform the decision making process for fire management at these parks.

Vegetation/Plants

Both parks are dominated by natural vegetation, primarily forested areas, and this will generally remain unchanged under the proposed Master Plan. Facility rehabilitation and development will require removal of some minor amounts of vegetation during construction. The new park office at Fahnestock will be developed in a relatively open area that was formerly used as a winter campground. Some selected removal of adjacent trees may be required in the final design.

The new parking area at Hubbard Lodge will result in the development of an old field area. This is considered the most appropriate location for this lot as it is directly adjacent to Route 9. It is not anticipated that any large trees will need to be removed.

The construction or realignment of trails and vista maintenance will also include vegetation removal. Final trail layouts will be reviewed in the field by appropriate agency staff (e.g. Park Manager, Regional Natural Resource Steward) to ensure there are no rare plant species affected. Closing of trails and restoration of areas where buildings are proposed to be demolished and removed will include the use of native vegetation. The Regional Landscape Architect and the Regional Natural Resource Steward will be consulted regarding the appropriate species to be used in any planting plans. In general all work in facility development and site design will be consistent with OPRHP's tree management policy (OPRHP, 2009).

Rare Plants

There are 10 species of rare, threatened, or endangered plants in both parks. One proposed trail in Fahnestock will be located in the general vicinity of a known rare plant population. The Regional Natural Resource Steward will work with the Park Manager and staff to ensure that the final trail alignment includes an adequate buffer to protect this population. Monitoring will occur during and following construction to insure that the population continues to be protected.

There are rare plant populations along trails in Hudson Highlands that are currently being impacted by recreational use as well as by invasive plants, particularly black swallow-wort. These impacts will be addressed through the use of mitigation techniques for trails discussed above under significant communities and in the following section on Invasive Species.

Animals

Overall, the proposed Master Plan will have a beneficial impact on fish and wildlife resources within both parks through the additional habitat recognition and protection afforded those species by the designation of Natural Heritage Areas and Park Preserve and Preservation Areas. Current wildlife policies and practices such as fish stocking and control of nuisance wildlife as needed, will continue.

Since most of the proposed new facility developments are located in areas that are already developed for recreational use, these improvements and new developments will result in little impact on the wildlife in the area. Construction in state parks is usually planned for the late fall and winter when park use is lower and this timing can mitigate disturbance to wildlife by avoiding periods of higher biological activity, such as bird breeding seasons.

The construction and use of new trails in the park has the potential to impact wildlife. Wildlife can be impacted by trails either directly through trail creation or indirectly through the effects associated with trail use. Sensitive habitats have been considered during the trail planning process so that these areas are avoided. Additional monitoring of existing trails will be conducted and considerations such as construction timing will also be used to mitigate trail impacts.

Overall, both parks include a diversity of animal species including 15 that are considered rare, or listed as special concern, or threatened, or endangered. This contributes significantly to the

biodiversity of the region. OPRHP will continue to work with others, particularly DEC and the US Fish and Wildlife Service to monitor the rare, threatened and endangered species so that they continue to be protected. Management strategies for different species were discussed in Chapter 6 and these are essentially impact mitigation strategies as well. For example the timber rattlesnake, a NY threatened species, uses a wide range of habitats within Hudson Highlands and the potential exists to encounter one on many of the trails. Reducing the potential for human snake interactions includes siting trails away from predictable rattlesnake use areas or in some cases re-routing trails away from known areas of use.

The proposed visitor center in Hudson Highlands will be located in an area that is potential habitat for the New England Cottontail, a candidate species for Federal listing. The Master Plan identifies a potential location for the visitor center, but its exact location has yet to be determined. Additional monitoring for this species will be conducted and shrubland habitat that is important for this species will be maintained as part of the landscape management plan for this new facility.

Deer population levels are adversely affecting the vegetation at the park through over browsing. Moreover, deer population management has been identified, as an issue not only within the park, but also throughout the surrounding areas. The master plan calls for the collection of additional information about the size of the current deer population. This will include the establishment of vegetation monitoring plots in both parks in areas that are hunted and not hunted. Analysis of this data will then allow for more informed decision making with regards to management strategies.

Bird Conservation Areas

The designation of a second BCA in Hudson Highlands and the expansion of the BCA at Fahnestock will provide added recognition of their importance for bird habitat, particularly for migratory waterfowl, neo-tropical migratory songbirds and state listed species. Management Guidance Summaries (MGS) have been developed for each park's BCA and are included in Appendix G. The MGS provides recommendations relating to habitat protection, access, operation and education and outreach programs focusing on the protection of birds and bird habitats at the park. Additional funds may also be available through the BCA program for bird survey work, construction of kiosks and other educational materials

Invasive Species

Invasive species management is an integral part of the Master Plan. Trail use, boating, and other recreational uses can facilitate the spread of invasive species. Invasive plant seed can be inadvertently introduced on construction equipment and through the use of mulch, imported soil, gravel, and sod. Some invasive plant species may have been intentionally planted in erosion control, landscape, or wildflower projects. Additionally, invasive plants migrate into the park from the surrounding communities.

The Natural Heritage Reports for both parks identified invasive species as one of the greatest threats to their biodiversity. The master plan calls for the preparation of invasive species management plans for both parks. These plans will provide needed guidance and a planning framework to prioritize control efforts so that control of invasive species can be done in the most effective manner from both an ecological and economic perspective. Such plans will also promote a more thorough understanding of invasive issues in the parks and help educate staff and visitors.

It is important to implement BMPs to minimize spread of invasive species including: proper material disposal and equipment cleaning methods limit the potential of invasive species to establish in new locations within and beyond a site. DOT has developed useful BMPs for invasive plant control (DOT 2009) that can be tailored to agency or park-specific projects and operations. Signs are posted

at all park boat launches requesting boaters check for invasive “hitchhikers” both before and after using park lakes.

OPRHP will develop a rapid response strategy for control of species such as black swallow-wort, especially in rare habitats or where the invasive species affects rare native species. OPRHP will continue to work with partners such as National Audubon at Constitution Marsh, the NY NJ Trail Conference, the Lower Hudson PRISM and other partners in development of both short and long term control efforts.

Scenic Resources

The scenic character of both parks is a very significant resource of the Hudson Valley. Hudson Highlands is within an area designated by the NY Department of State’s Coastal Management Program as a scenic area of statewide significance (SASS). Implementation of the Master Plan will not result any significant adverse impacts on scenic resources in the park. The plan proposes continued maintenance of existing scenic areas along roads, particularly Route 9D which is a NYS designated scenic road and at designated vistas on trails.

Any new construction or renovations to existing structures will be designed to complement their surroundings and will not be visually intrusive.

Historic and Archeological Resources

The Plan calls for additional surveys of historic and cultural resources and the preparation of management plans for important historic features such as the North Redoubt and the Connecticut Camps, to provide improved protection for these significant historic areas. A nomination for the National Register for the former University Settlement Camp and the original core of Fahnestock will also provide additional recognition and protection of the history and cultural resources of these areas.

Changes to structures that are considered eligible for the National or State Register of Historic Places, such as the CCC era structures in Fahnestock or the Bannerman’s Island ruins or the University Settlement Camps in Hudson Highlands, will require additional review by OPRHP’s Division for Historic Preservation in accordance with Section 14.09 of Parks, Recreation and Historic Preservation Law. This also applies to projects that may involve ground disturbance. Any measures to avoid or mitigate impacts to archeological resources or recommendations for additional archeological surveys will be implemented.

Improved signage and interpretive materials will improve understanding of the history of both parks.

Open Space and Recreation

Implementation of the Master Plan will result in substantial beneficial recreation and open space impacts. The plan provides for a wide variety of new and improved recreation facilities and visitor amenities. There will also be expanded public environmental educational opportunities.

Implementation of the Trails Plan will result in a better organized trails system which will accommodate a variety of uses including hiking, biking, equestrian, cross country skiing and snowshoeing. Trails plan implementation will also result in improved trail maintenance including drainage and an improved trail signage system. The new trails provide new recreational opportunities, such as multi-use single-track trails, offer loops of varying lengths for patrons of different abilities, and provide several new interpretive trails for environmental education.

Designation of the Park Preserve and Park Preservation Area will not result in adverse impacts to current recreation opportunities provided at the park. The proposed recreational uses of Hudson

Highlands State Park Preserve are consistent with this designation. The portions of Fahnestock that are not designated Park Preservation Area will continue to support more intensive recreation activities such as the campground, picnic areas, and the bathing beach/day use area. The area proposed as a Park Preservation Area was carefully selected to accommodate recreational and operational needs while assuring the long term protection of the park’s forested landscape and diverse plants and wildlife.

Traffic and Access

Implementation of the Master Plan will result in some improvements to access to both parks, primarily due to improvements to parking facilities. Table 6 is a listing of the parking facilities and their proposed improvements, where applicable.

At Fahnestock, access and parking at the current park office is inadequate. The new park office will provide a centralized location with approximately 10 spaces and a safe entrance where park visitors can get information about the park and register for a campsite. The parking areas at Canopus Beach, Pelton Pond, Canopus Lake boat rental, the lakeside parking area (peninsula) and the Appalachian Trail (Route 301) trailhead parking areas will be formalized to provide a more organized parking layout and safer access. The former DPW lot on Route 301 will be reconfigured, and repaved and will include a stream buffer area. The actual number of spaces of each of these lots may increase as a result of these improvements, but not by a significant amount. The roadway and parking area improvements at Stillwater Lake will be replacement in-kind and maintain the existing gravel surface.

At Hudson Highlands, the location of the new park visitor center will provide a contact point with parking, restroom facilities and a safe access off of Route 9D. The parking lot at Little Stony Point will also be improved with a designed entrance and exit to improve sight distance, new paving and striping to better organize parking. OPRHP will work with Metro North (MTA) to improve the parking area adjacent to the tracks near the Breakneck Ridge trailhead. Parking occurring elsewhere along Route 9D is under the jurisdiction of the NYS Department of Transportation and OPRHP will work with DOT to improve these parking areas.

Table 6 - Parking Facilities

Fahnestock State Park Parking Facilities		
Parking Lot	Capacity	Proposed Improvements
Canopus Lake Beach	~300	Paving, striping; will add 5-10 additional spaces
Pelton Pond	~80	Paving, striping; may increase by a few additional spaces
Canopus Lake Boat Rental	12	Paving, striping; may increase by a few additional spaces
Hubbard Lodge	~80	No net change. A new lot will be constructed to accommodate 40 spaces including horse trailers. Existing parking along road will be used to accommodate overflow.
TOEC	50	No change.
Appalachian Trail (Route 301)	12-north side; 20-southside	Paving, striping; may increase by a few additional spaces.
Park Office/Maintenance Area	10	The new office location will accommodate approximately 10 additional spaces.
Lakeside parking (peninsula)	8	Paving, striping; may increase by a

		few additional spaces.
Trout Brook (Wiccopee)	6	No change.
Stillwater (permit parking)	~40	In-kind improvements to roadway and parking area (will maintain gravel surface)
Group Camp	~100	No change.
Sunken Mine & Dennytown Rds	15	No change.
Old DPW Lot (Route 301)	~15	Reconfigure lot; repave and stripe, add stream buffer
Hudson Highlands State Park Preserve Parking Facilities		
Parking Lot	Capacity	Proposed Improvements
Breakneck Ridge/MTA Lot	40	Work with MTA to improve parking lot.
Little Stony Point	12-west side; 30-east side	Pave and stripe lot on east side of 9D.
Denning's Point	~20	No change.
Arden Point	0 (utilize Train station parking)	No change.
Annsville Paddlesport Center	30	No change.
Anthony's Nose (Toll House)	12	No change.
Bear Mountain Overlook	14	No change.
New Visitor Center	n/a	Construct access road and 60 car lot.

Public Health and Safety

Public health and safety are important elements in park operations. New or substantially rehabilitated facilities will be designed and constructed to meet all applicable health and safety codes including compliance with the Americans with Disabilities Act. Design and rehabilitation of infrastructure systems such as electric, water, and sewer will ensure public health protection. Vehicular and pedestrian safety will be improved within the park. New pedestrian crosswalks are planned at the Fahnestock boat launch and at the Little Stony Point parking area which should improve the safety of park patrons crossing these busy highways. Also, the new pedestrian bridge will significantly improve the safety of park users crossing Route 301.

Energy, Noise and Odor

Sustainability principles and energy efficiency will be incorporated into the design of all proposed construction. Any new structures will utilize sustainable design practices and any renovations to existing structures will incorporate sustainable elements when feasible. Master Plan implementation may result in some temporary increases in noise during construction. Construction is generally scheduled for periods of low park use to minimize impacts to park visitors.

Unavoidable Adverse Effects

The proposed Master Plan will result in some unavoidable adverse impacts. These will be primarily construction related (e.g. fugitive dust, noise from construction equipment and vehicles, etc.) There will be a loss of pervious soil surface, vegetative cover and habitat as a result of construction of proposed facilities such as the new park office in Fahnestock, the new visitor center at Hudson Highlands, and new trails.

Irreversible and Irrecoverable Commitments of Resources

The planning, development and implementation of this Master Plan including rehabilitation of facilities, formalization of parking areas, new construction of buildings and trails, dredging and other actions proposed, has and will involve the irreversible and irretrievable commitment of public resources in the form of time, labor and materials. It will also require a commitment to the long-term operation and maintenance costs of the park.

Impacts on Growth and Character of Community and Neighborhood

It is anticipated that implementation of the Master Plan will result in some increased recreational use of the park. This increased recreational use is not expected to be significant and will be carefully managed in an effort to support the vision and goals established to maintain the quality of the park's important natural, scenic and historic resources. There will be positive, on-going, economic impacts to the communities surrounding the park in the form of increased business to gas stations, restaurants and convenience stores. Tourism-related expenditures for camping and day use activities that are offered at the parks are important to the economic vitality of the area.

Many local residents take advantage of the many opportunities these parks have to offer. Fahnestock and Hudson Highlands are very unique however, in that they offer a tremendous natural area within an hours drive or train ride from New York City. These parks will continue to provide the current activities and the master plan proposes to enhance some of the activities through improvements to camping and day use facilities. The character of the parks will be preserved and will not be impacted by these improvements.

Supplemental Environmental Review

Portions of this Draft Master Plan/EIS are somewhat general or conceptual. Decisions regarding the type and extent of certain actions will be dependent on the findings from more specific studies or analysis still to be completed. The findings from these site specific evaluations may identify impacts that were not adequately addressed in this plan/EIS. Under such a circumstance, an additional or supplemental environmental review will be required. As part of the agency's responsibility under the State Environmental Quality Review Act, OPRHP will review proposed implementation projects with respect to consistency with this plan and EIS. Projects found by OPRHP to be consistent with the plan can go forward without any additional review. Other types of proposals may require additional review ranging from completion of an environmental assessment form to perhaps a site specific environmental impact statement.

To assist in this consistency evaluation, the following types of actions have been identified as likely to require additional review under SEQR:

- Any new actions not addressed within the Master Plan that do not meet the Type II categories with Part 617, the rules and regulations implementing SEQR;
- Any change from the preferred alternative for recreational and facility elements of the plan which would result in significant environmental impacts;
- Any leases, easement, memoranda of understanding, or other agreements between OPRHP and private entities or other agencies that affect resources in a manner that is not sufficiently addressed in this plan;
- Any project determined through review by the OPRHP Division for Historic Preservation to have an Adverse Impact on historic or cultural resource at the parks
- Any proposals for new trails, trail segments or trail uses not addressed within the Trails Plan that is a part of this master plan;

- The new visitor center at Hudson Highlands, bridge rehabilitation and other recreational improvements at Denning's Point, parking and trailhead at the North Redoubt area and the rehabilitation of dams in either park as the scope of work for these projects are not known at this time.

Relationship to Other Programs

Coastal Zone Management Program Consistency

Hudson Highlands State Park Preserve is located within New York's coastal area, specifically the Hudson River. In accordance with the NY Waterfront Revitalization and Coastal Resources Act (Executive Law Article 42) state agency actions within the coastal area must be evaluated for their consistency with the State's coastal policies. The overall objective of this program is to assure a balance between development and preservation of the State's coastal areas.

A section of Hudson Highlands State Park Preserve, Denning's Point, is located within the boundaries of the City of Beacon's Local Waterfront Revitalization Area Plan (LWRP). As described in Chapter 6 the master plan recommends certain activities at Denning's Point such as rehabilitation of the bridge, however the scope of work for these projects is not known at this time. These actions will be reviewed under SEQOR as they are implemented and therefore will also be reviewed for their consistency with the Beacon LWRP at that time as well. The actions within the remainder of Hudson Highlands State Park Preserve, which are outside of the boundary of the Beacon LWRP, have been reviewed for their consistency with the statewide coastal management policies (NYCRR Title 19, Part 600.5)

After a review of all policies (NYCRR Title 19, Part 600.5) OPRHP has determined which policies are applicable to this Master Plan. A Coastal Assessment Form (CAF) was completed to assist in the identification of applicable policies. The CAF and discussion of those policies are provided in Appendix H. Policies applicable to the plan include those related to water dependent uses and facilities, development in areas where public services are adequate, significant fish and wildlife habitat, access to public water related recreation, water-dependent and water-enhanced recreation, significant historic and cultural resources, scenic resources of statewide significance, best management practices, and protection of wetlands.

Summary

Based on the coastal policy discussion contained in Appendix H, it is OPRHP's determination the action will not substantially hinder the achievement of any of the policies and purposes of the State Coastal Policies as described in the New York Coastal Management Program.

Chapter 8 – Comments and Responses

Introduction

This section contains the responses to the comments received by OPRHP on the Draft Master Plan and Draft Environmental Impact Statement (DEIS) for Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. The Draft Master Plan/DEIS was issued on September 29, 2010. A Public Hearing was held on October 13, 2010 at Hubbard Lodge at Clarence Fahnestock Memorial State Park. The comment period ended November 5, 2010.

During the Public Hearing, sixteen people spoke and their comments were recorded. During the comment period for the Draft Master Plan/DEIS, the Agency received 33 written comment letters. A list of persons providing comments is included at the end of the chapter.

OPRHP appreciates the time and efforts that persons interested in the future of Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve have invested in their review and comments on the Draft Master Plan/DEIS and their participation in the public hearing.

The types of comments received included document editing suggestions, requests for clarification of information presented in the document, and comments related to specific aspects of the plan. All comments were reviewed and organized by categories.

Responses to these comments are found in this section and were considered in the revisions found in this Final Master Plan/Final Environmental Impact Statement (FEIS).

Response to Comments

The following section contains a detailed list of comments received from the public during the comment period and public hearings and the responses. The comments are organized by category. Following each category heading, there is a summarized comment. Following each summarized comment is the Agency's response.

General Plan Comments

Comment – Mapping

The draft master plan lacks a map documenting the historic trail uses.

Response:

Comment noted. The trails planning process documents all existing trails, designated and undesignated. This mapping then serves as the basis for developing an overall trails plan that takes into account the recommendations of various recreation users, need and demand for trail use and natural resource conservation. Many of the existing trails have connection to historic use. While a map delineating historic trail use is not typically produced for master plans it is a good suggestion and the agency will consider preparing one, as time and resources allow that can be used as a reference within park operations and future planning efforts.

Comment – Universal Access

Areas and activities of the park are inaccessible for disabled people and this is a violation of the Americans with Disabilities Act.

Response:

The agency has taken into consideration the requirements of the Americans with Disabilities Act. The master plan addresses several activity areas within the parks and proposes improvements to these areas. These improvements include those that will address the ADA and provide a better overall user experience for all park patrons. Specific universal access improvements are proposed within the Canopus Lake Recreation Area, the campground and the Pelton Pond picnic area. New trails proposed in the master plan will take ADA guidelines into consideration during the design phase.

Comment – Bike racks:

Please install bike racks in the parks.

Response:

Comment noted. The text of the plan has been changed to reflect the installation of bike racks at locations throughout both parks.

Comment – Fahnestock Park Preservation Area

Candlewood Hill, Canopus Creek Valley, Bushy Ridge and the outlet of Stillwater Lake should be added to the Park Preservation Area at Fahnestock

Response:

All of Fahnestock was evaluated for designation as a Park Preserve; however, it did not meet the established criteria outlined in Article 20. Those areas deemed to contain higher quality ecological communities and heritage elements were included with the Park Preservation Area.

Comment –Dockside Recreation Area Agreement

There is no existing management agreement between OPRHP and the Village of Cold Spring. One should be developed and implemented as soon as possible.

Response:

Comment noted. The plan has been modified to reflect this suggestion.

Comment –Staffing

There is no or insufficient mention in the draft master plan about personnel needed to implement the ideas set forth in the plan.

Response:

Implementation of the master plan requires a variety of resources including staffing, design and construction, equipment. The resources within state parks to implement the master plan are contingent upon available funding resources. Partnership with interest groups and other agencies however are also important resources for plan implementation. OPRHP will continue to work with park partners to implement elements of the plan that can be done with volunteer resources.

Comment –Acreage and Attendance

Please double check the acreage of both parks and include an estimate of the annual attendance for the two parks.

Response:

Comment noted. The plan has been changed to reflect the appropriate acreage and attendance.

Comment –Editorial and Wording Suggestions

Comments were received regarding general edits or wording suggestions. Most editorial suggestions were accepted and the following comments were made and changed in the plan:

1. Recreation Goal—This goal should be revised to reflect camping activities at Fahnestock.
2. Open Space Goal—After “acquisition” add “and conservation easements.” This goal should also reference the NYS Open Space Plan.
3. Canopus Lake Recreation Goals—The locations of the playground and docks should be deleted as the plan is evolving.
4. Facility Development Goals—Add a sentence about improving equestrian parking areas at the parks.
5. Scenic Resource Protection—Add a bullet regarding working with park partners to protect scenic views of private lands.
6. Implementation Table—Add equestrian uses to the on-going section.
7. Please note the location and access to Stillwater Lake and Wicoppee Pond in Chapter 3.

Response:

Comments noted. These edits and suggestions have been changed within the master plan. With respect to comment 5, language regarding working with park partners to protect scenic views and open space is included in the “Open Space Protection” goals.

Comment – Photography

Please do not allow photography in the parks. Photographs of the parks demonstrate the natural beauty of the region and encourage more hikers and people (with varying outdoor experience) to come to the parks.

Response:

Photography, especially nature photography, is considered an important opportunity and activity for park visitors and interest groups and will continue within the State Park System. The agency is not aware of any reports or studies that indicate photography contributes to adverse impacts to the park or its resources. Such photography could, indeed, enhance awareness of the sensitivity and importance of natural and cultural resources and lead to greater support for their conservation and preservation.

Comment – Coordination of Various User Groups

A committee should be formed consisting of representative from the various user groups in an effort to coordinate activities that are going on in the park.

Response:

The Friends of Fahnestock and Hudson Highlands have representatives from various user groups on their steering committee. The agency works closely with the Friends in an effort to better coordinate the many and varied activities on going within these parks. User groups and individuals with an interest in coordination of the activities should consider becoming involved with the work of the Friends. For more information please visit: <http://www.fofhh.org> or contact the group at: PO Box 194, Cold Spring, NY 10516-0194.

Comment – Little Stony Point Citizen Association

The Little Stony Point Citizen Association (LSPCA) is not listed as a park partner. Please add them to the list within the plan and note that they assist with the environmental education and interpretation efforts in Hudson Highlands.

Response:

LSPCA has been added to the plan. In addition, a statement that the Memorandum of Agreement with the LSPCA has expired and will be revisited was added to Chapter 6.

Comment – Interpretive Signage

Regarding the goal of increasing interpretation through programming and signing, please consider the potential of utilizing on-line technology to minimize reliance on physical signs.

Response:

Comment noted. OPRHP will explore the viability of this suggestion.

Plan Implementation

Comment – Project Development

When implementing the plan, please consider reaching out to the local planning departments and planning boards of the communities where there may be development within the park, mostly as a courtesy.

Response:

Localities and their planning staff are important partners and resources to the agency. State Parks makes a concerted effort to reach out to localities regarding significant projects that occur on parkland.

Comment – Project Development

1. Page 10 notes that the Catskill Aqueduct crosses Hudson Highlands SP. Please be advised that any blasting, pile driving or the use of heavy machinery that could endanger the aqueduct is prohibited (DEP).
2. It appears that some proposed improvements may be located within the NYC watershed boundary, namely the proposed parking lot at Canopus Lake and improvements to the FWP. It is recommended that OPRHP contact DEP stormwater programs to determine the location of the watershed boundary and conduct a watercourse delineation that may ultimately affect the site layout and review.

Response:

The Master Plan does not propose any construction activities near the aqueduct and will comply and consult with New York City Department of Environmental Protection during the design of the parking area at Canopus Lake and the new trail within the Winter Park to determine the watershed boundary.

Comment – Plan Implementation

Can you apply some specific time frames for implementation of the plan? Something more detailed than “Priority 1” would be helpful.

Response:

The Implementation Table provides a general prioritization of the various actions proposed in the plan. The actual implementation of an action will depend on available funding. Since there is no definite time when this would occur, master plans for state park facilities identify the implementation in accordance with the priorities identified in the plan.

Traffic, Transportation and Parking

Comment – Little Stony Point Parking and Access

1. Please address overall pedestrian access to Little Stony Point (LSP), not just from the existing parking lot. Especially pedestrian access to other trails from LSP. Accessible parking should also be improved. Pedestrian pathways that are parallel to Route 9D would create a safer situation for pedestrians as cars routinely park along Route 9D.
2. The Town of Philipstown did a study to develop a new parking area at LSP. The idea was to eliminate the existing parking area and create a new, 60 car parking area on the west side of Route 9D. Ideally, parking would no longer be allowed parallel to Route 9D either.
3. The same study explored the feasibility of the development of a trail through the tunnel and the all the way up through Beacon. A traffic/pedestrian triggered light and crosswalk would also be beneficial across 9D.
4. Pedestrian and crosswalk improvements have been discussed conceptually with NYSDOT. Parking improvements are a good idea. The details need to be developed to determine if the improvements can actually be built and operate safely. NYSDOT has concerns with encouraging pedestrian movements across Route 9D. Changes could also require permitting actions by DOT.
5. The Friends of Fahnestock and Hudson Highlands supports the expansion of the Cold Spring Trolley service to include stops along Route 9D between the Village of Cold Spring and the Breakneck train station.

Response:

OPRHP will continue to work with DOT and local governments to explore alternative improvements. With respect to comment 3, OPRHP met with NYSDOT during the planning process to discuss pedestrian and parking issues in both parks, and especially along Route 9D near LSP. Creating a trail through the tunnel has been proposed to DOT before and has not been allowed due to pedestrian and safety concerns. A parking lot on the west side adjacent to the river and LSP was considered during the planning process and it was determined that because it was not a water dependent or water enhanced use, it would not be an appropriate use in a coastal zone, per the NYS Department of State's Coastal Zone Management Program, Please see Appendix A, "Little Stony Point Parking" for a full list of considerations. Accessible parking improvements will be made when the existing parking area at LSP is redesigned. With respect to comment 5, OPRHP also supports the expansion of the Cold Spring Trolley Service; however, this issue is beyond the purview of the master plan.

Comment – Canopus Lake Recreation Area Parking, Pervious Surfaces

1. Please do not pave the existing parking area.
2. Please consider using a pervious material should you expand and pave the lot and in other locations where paving is proposed.

Response:

The master plan notes that pervious paving material will be utilized wherever feasible. Pervious material is the preferred paving material for both parks. The parking area at the Canopus Lake Recreation Area is not being utilized in an efficient manner. Formalizing (paving and striping) the lot will provide a more organized and efficient parking experience.

Comment – Bridge over Route 301 at Fahnestock

This crossing has been discussed conceptually. NYSDOT believes it is a good idea to improve pedestrian safety if it can be designed to be in the natural flow of pedestrian movements across Route 301. A structure that is not appropriately located will not be used and pedestrians will just cross Route 301 at grade. DOT would want to be able to comment on any parking or access changes that affect Route 301. Changes could also require permitting actions by DOT.

Response:

The bridge proposed is in the conceptual design phase. OPRHP will consult with DOT during the planning and design phase and looks forward to working with DOT on this project.

Comment – Hubbard Lodge Parking Area

The plan needs to address access to Hubbard Lodge from Route 9, especially if encouraging more use by horse trailers. Does it need a left turn lane? Is there adequate sight distance? Changes could also require permitting actions by NYSDOT.

Response:

The proposed parking area at Hubbard Lodge is in a conceptual design phase. At this time, it is not known whether the proposed parking area will require a turning lane on Route 9 to ensure the safety of motorists and park patrons. When the formal planning and design phase commences for the park area, OPRHP will consult with NYSDOT to ensure that any anticipated traffic increase on Route 9 will be addressed in as efficient and safe manner as possible. .

Comment – Stillwater Lake Access

It appears the proposed new interchange at Pudding Street will facilitate the improvements at Stillwater. NYSDOT would want the median opening on the Taconic at Stillwater to be closed. The proposed new interchange at Pudding Street and a reconstructed interchange at Route 301 would allow safe access to/from Stillwater using the southbound Taconic from both the southbound and northbound Taconic.

Response:

Comment noted. OPRHP will continue to work with NYSDOT with respect to any projects occurring adjacent to the parks that may affect access.

Park Operations

Comment – Fees

Hunters are forced to pay a fee for their hunting license and additional taxes when they pay for ammunition. Why are hunters the only user group that is charged? It's time that all users, hikers, mountain bikers and other groups are charged a fee.

Response:

Hunting license fees and taxes on hunting equipment are not administered by State Parks. Any additional fees that may be required for park use and access are applicable to all park users.

Comment – ATV Use and Enforcement

1. There is little to no discussion of illegal ATV use or increased enforcement of illegal ATV / ORV activity in the draft plan.
2. The plan should offer some methods to control and/or deter ATV and ORVs. The plan should recommend budgeted monies for police, education and aggressive barriers. Perhaps mounted police could be utilized.
3. ATVs should be allowed in the park for park patrons who are unable to physically walk the trails.

Response:

ATV use within State Parks by the public are not allowed. Such uses are illegal and violators subject to enforcement and penalties. Text has been added to Chapter 6 stating that enforcement by park police will be increased as funding and other resources are made available.

Comment – ATV Use for Trail Maintenance

Short term permission is requested to use a licensed ATV for the purpose of bringing in tools and equipment to use in repairing the trails and removing fallen trees: chainsaws, shovels, crowbars, pick axes, etc.

Response:

OPRHP has issued permits for using ATVs for trail maintenance in the past. The permit system should continue in the future on a very limited, as deemed necessary, basis. Permits for using ATV's for trail maintenance are severely limited (good for the day of the work only) and will only be issued upon receipt of an approved work plan.

Comment –Campground Maintenance

The presence of bears within the vicinity of the parks is becoming more common. The addition of bear-proof trash cans and lockers should be considered.

Response:

Comment noted.

Comment –Hubbard Lodge

Consider improving the building to allow access to the bathrooms when the main lodge is closed and locked. Consider adding outside water to allow equestrians to access water for their horses.

Response:

Comment noted.

Comment – Sunken Mine Road Parking

Will this area be plowed so people can park during the winter?

Response:

Yes. This parking area will continue to be plowed in the winter for access to the park.

Historic and Scenic Resources

Comment – Scenic Viewshed Protection

While the plan highlights some areas for scenic protection and maintenance, there is no discussion of keeping views open such as the one on East Mountain or Round Hill, behind Hubbard Lodge. The East Mountain Loop viewpoint will need opening up soon.

Response:

Changes have been made to Appendix A and Chapter 6, the master plan chapter, to include these areas in the scenic viewshed protection strategy.

Comment – Historic Resources

There isn't enough information in the plan about the Mt. Beacon Fire Tower. The plan should offer more direction as to how to better utilize the Fire Tower as a destination in the park.

Response:

Information has been added to Chapter 1 to better highlight the Fire Tower as a destination at Hudson Highlands.

Comment – North Redoubt

A third preferred alternative should be listed. The cultural significance of the site should be interpreted in a manner similar to that at South Redoubt (i.e. kiosks, maps, etc.)

Response:

Cultural and historic interpretation and education is covered in the "Cultural and Historic Resource Protection and Management" section of the master plan. Management of the resources at North Redoubt and other historic and culturally significant areas of the park are covered in this section.

Natural Resources

Comment – Firewood

The draft master plan does not mention that it is illegal to bring firewood into the park.

Response:

This is a regulatory issue and is noted on the Reserve America website. Park staff also deals with this issue on a routine basis. A statement regarding firewood as a pathway for pests has been added to the invasive species section of the master plan (Chapter 6).

Comment – Lichens

More information regarding lichens should be listed in the plan as lichens are an indicator of pollution.

Response:

Information on the lichens in these parks would be valuable to have, particularly for documenting pollution impacts. The flora listing in the appendix was developed with the information that was on hand within the agency at the time of preparation. If a reliable source of lichen species at each park is available we can add it to the flora listing.

Comment – Rare and State Listed Reptiles

How will OPRHP protect the rare reptiles? The paragraph highlights critical habitats but should include actual management strategies, as well.

Response:

Protection measures will be species specific and will be based on appropriate State guidelines and done in consultation with DEC, as appropriate. Examples of protection could include limiting disturbance within critical habitat, such as realignment of trails. It might also involve maintenance or creation of nesting habitat, or managing the vegetation to maintain an open character of important basking areas.

Comment – Rare and State Listed Flora and Fauna

Education efforts should be handled very carefully. Often signage describing sensitive environments or habitats piques an individual’s interest and may produce the opposite impact, thereby luring people from the trail on a quest to “discover” the object of concern. This action in aggregate may have a deleterious impact on the system or species (flora or fauna) that you are trying to protect.

Response:

Comment noted. This is an important consideration by State Parks, DEC, and the Natural Heritage staff when preparing and/or disseminating information on rare and state listed flora and fauna. OPRHP will remain vigilant of the need to assure protection of sensitive habitats and resources in developing and placing educational and interpretive material.

Comment – Invasive Species Management

The current invasive species list in this section only includes some of the early detection species. Mile-a-Minute is in the park but is not included on the list. Also, threats from known invasive species, which have not been identified in the park but are found locally, should be included in the document including: rock snot, giant hogweed, and emerald ash borer. The plan should note the local presence of these invasive species, make recommendations on tracking their potential spread into the park, and highlight recommended management and control strategies.

Response:

Comment noted. Mile-a-Minute should have been included in the list as it is an important invasive plant that is known to be in Hudson Highlands State Park. A Mile-a-Minute stem-boring weevil (*Rhynchonotus latipes*) was released as a bio-control this past year. In addition, monitoring for emerald ash borer was also conducted this past year, as well. The invasive species management plans for the park will note the local presence of these species and others, as well as describe early detection and rapid response strategies.

Comment – Shrubland Management

In the Alternatives Appendix under “Visitor Center – Hudson Highlands,” shrubland and field management is mentioned only for the proposed Visitor Center area. There may be other more remote areas that should also be managed as such. This area is close to roads and traffic is a significant threat to the Eastern cottontail.

Response:

Shrubland management was specifically mentioned in the visitor center discussion because it was tied to the considerations that were evaluated for the Visitor’s Center proposal alternatives. Actually

the text should have stated that the surrounding area would be managed as habitat for the New England Cottontail not the Eastern Cottontail. The New England Cottontail is a separate species that is listed in NY State as a Species of Special Concern and is also a candidate for Federal listing.

Based on recent monitoring, the New England Cottontail has been found to occupy additional areas in both parks and OPRHP is currently working with the NY Natural Heritage Program and NYS DEC on monitoring and the development of management guidelines to improve habitat for this species in the parks. These types of habitat improvement activities are generally supported in the master plan under the rare, threatened, and endangered species management strategy. Route 9D traffic is considered one threat to this species.

Comment –Aquatic Invasive Species

The problem of aquatic invasive species in many lakes and ponds is already at a critical point where the problem requires immediate management. The Master Plan should include readily implemented strategies to deal with the existing poor conditions, especially at Canopus Lake.

Response:

The presence of high levels of aquatic invasive plants is noted for several lakes and the plan calls for more detailed surveys in order to develop lake specific management strategies. At Upper Canopus Lake, where Eurasian milfoil at the swimming area is causing significant use impairment, the plan calls for rehabilitation of the swimming area combined with other vegetation control measures for the remainder of the lake.

Comment –John Allen Pond

Please include some specific management recommendations for John Allen Pond.

Response:

As noted in the Environmental Setting section, the dam at John Allen Pond was breached in the summer of 2009 resulting in a lower lake level. Additional information on lake use is needed in order to evaluate alternatives for the breached dam such as rebuilding it or removing it

Comment – Deer Permits

Deer are degrading the forest and eating all of the undergrowth, yet the state is limiting hunters and this will have a long-term detrimental effect on the forest. Why did DEC reduce the number of doe permits for Putnam County?

Response:

Deer management permits are allocated by the DEC based on a formula developed by the Department. Questions regarding the number issued should be addressed to the DEC.

Comment – Deer Management

1. Wildlife Resources could be better defined. In the draft document it is unclear as to whether Deer Management is a sub-heading to Wildlife Resources or why this particular species (as opposed to beaver, coyote or bear) is being singled out within the Master Plan for management. Are we really talking about Forest structure? It is just not clear.
2. Deer management is critical to forest regeneration and the protection of ground-nesting and understory-nesting bird habitat.

3. The deer population is getting out of hand and they're degrading the forest understory. It is great that there is 500 acres to hunt, but deer are everywhere and their population needs to be controlled on a larger scale.
4. Consider taking out the larger, stronger bucks and castrating them.
5. OPRHP should partner with DEC and other large land owners in the vicinity of both parks to develop comprehensive, landscape-level deer management strategies. In particular, OPRHP and Scenic Hudson should work cooperatively to ensure their hunting programs are complimentary and designed to effectively achieve biodiversity conservation goals.
6. A critical evaluation of the impact of deer on forest understory and regeneration, including their impact on biodiversity, carbon sequestration and endangered species should be performed. If regions are identified as negatively impact by high deer over population, a program opening those affected regions be open to deer hunting.

Response:

The Deer Management section heading has been reformatted to reflect that it is a sub-heading of Wildlife Resources. The plan recognizes that overabundant deer can have many unwanted impacts both socially and ecologically. The Mammals section in Chapter 3 has been modified to better reflect these impacts.

On the landscape level additional documentation of biodiversity impacts is needed to make informed decisions about the type and extent of deer management needed in both parks. OPRHP has already scheduled a meeting with DEC Region 3 staff to begin discussions on this. Additional data on the current size of the deer population and its impact on parkland biodiversity may be collected in a variety of ways; for example through the collection of deer take information using the park's existing hunting permit system and establishment of vegetation monitoring plots. With this supporting data in hand OPRHP will work closely with DEC and adjacent landowners, such as Scenic Hudson, to develop park-wide assessments of biodiversity and deer impacts which will include specific management strategies. The Deer Management section in Chapter 6 has been modified to clarify this process.

Recreation

Comment – Hunting

1. More land should be opened for shotgun hunting. Shotgun and muzzleloader hunting should be expanded to the North Wiccopee area, the Dicktown Road area, and the Moose Hill area.
2. Deer hunting could be expanded to include all areas of the Parks with the possible exception of some nominal buffer around developed infrastructure. If concern over potential user conflicts prevents the opening of some intensively used parts of the park (e.g. the Lake Canopus/Pelton Pond area) to firearms hunting, these few limited areas could be designated as bow hunting only.
3. Additional recreation hunting and trapping opportunities could be developed for both Parks. Hunting of all types and trapping are legitimate recreation activities that are consistent with the management and visions and goals of the parks. Hunting and trapping are extremely safe especially for non-participants.
4. Expanded recreation opportunities could include additional access to both parks for spring turkey hunting with shotguns and additional fall small game hunting opportunity.

Response:

As stated in the draft master plan, recreational hunting will be expanded to areas identified in the plan where hunting occurred prior to state acquisition. Potential additional hunting areas will be evaluated by park staff in consultation with the Department of Environmental Conservation and other state agencies and park partners.

OPRHP's Policy on Fish and Wildlife Management in State parks and Historic Sites prohibits trapping of wildlife for commercial or recreational purposes. The policy does allow use of trapping for protection of at-risk species if warranted.

Comment – Winter Park

Why is snowshoeing allowed on all of the cross-country trails? There has been an increase in the number of snow-shoers who step on, and obliterate, the groomed tracks over the last three years. For classic skiers (as opposed to skaters), this significantly impairs the skiing experience. I have often spoken to snow-shoers, pointing out that they are not supposed to step on the tracks.

Response:

Snowshoeing is not allowed on groomed cross-country ski trails. Greater efforts informing users of this fact will be made and staff of the Winter Park will continue to enforce this rule.

Comment – Mountain Biking

There aren't many mountain bikers in the area but it's a growing activity and there will be more. We're a dedicated group who does a tremendous amount of trail work. A lot of us have experience building and maintaining trails and are willing to help, especially with blazes and improving trail blazes along the trails.

Response:

Additional mountain biking opportunities are included in the trails plan. OPRHP looks forward to working with all user groups to improve the trail systems of both parks.

Comment – Canopus Lake Boat Launch

Please consider offering kayaks for rental at the Canopus Lake Boat Launch. This would be a welcome amenity.

Response:

Comment noted.

Comment – Camping at Fahnestock

A second campground area should be considered if current increased visitation trends continue.

Response:

Comment noted. A second campground was considered during the planning process and the analysis can be found in Appendix A.

Comment – Arden Point

Will facilities or a dock be developed for boat landings? If so, where?

Response:

OPRHP does not feel that Arden Point would be a desirable location to develop a boat dock. Though the plan recommends this location to be designated on the Hudson River Water Trail, it would be an informal launch.

Equestrian

Comment – Parking

There needs to be additional space for horse trailer parking. People need space to park and turn around.

Response:

Additional horse trailer parking is provided for in the plan, specifically at Hubbard Lodge. Signage will be improved to promote the parking area at the terminus of Wiccopee Road adjacent to the Taconic State Parkway; OPRHP will work with DEC for horse trailer parking at the Castle Rock Unique Area for access into the Osborn Preserve area. As the plan is implemented additional improvements to parking for all recreation activities will be considered as demand warrants.

Comment – Parking at Fahnestock

Horse-trailer parking at the southern end of the campground at Fahnestock should be abandoned as such and habitat restoration should be undertaken. This area is part of the newly designated Martin Hugh McGuire Hemlock-Northern Hardwood Area.

Response:

The horse trailer parking area is adjacent to and not within the Martin Hugh McGuire Hemlock-Northern Hardwood Area. This parking area is an important access point for trail use in this area. An assessment will be made by State Park natural resource stewards as to the current condition of the parking and surrounding area. Restoration and mitigation steps will be undertaken to if not eliminate then minimize any adverse environmental impacts to natural resources.

Comment – Separate Trails

Horses need more space than hikers and bikers; therefore, they need their own trails. Keep equestrian, mountain biking and hiking trails separate. The bikers don't want manure and the horses don't want to get run over, can we have side by side trails or a system that encourages one group/user to move to the right to allow for the other to pass?

Response:

State Parks encourages the use of shared use trails. OPRHP staff members have researched information on shared use of trails by hikers, bicyclists and equestrians and found that such uses have been compatible in most instances. State Parks monitors both the interaction of various user groups as well as potential impacts to natural and cultural resources. In cases where significant conflicts arise or become apparent steps will be taken to address the concerns. OPRHP promotes cooperation among the various trail user groups. The trails plan calls for improved signage at trailheads. Information on proper etiquette on shared-use trails will be made available at various locations within the parks and may be incorporated within the improved signage at trailheads.

Comment – Moneyhole Mountain

- 1) Can a loop trail be made so equestrians don't have to ride down steep hill to Indian Brook Rd. and walk the road back to start trail?
- 2) Make a trail directly across from lower parking area along the tree line in the field of the Boy Scout Camping Area. This will keep horse and rider from dodging traffic for ½ mile on the busy road.

- 3) Would it be possible to use the parking lot at TOEC when having a large number of trailers?
- 4) Can equestrian trails be added by Duck Pond?

Response:

- 1) A number of loop alternatives were discussed in this vicinity and none were deemed appropriate due to steep terrain and safety issues along the Indian Brook Road. Other alternatives may be considered in the future.
- 2) The only time there is a need to “dodge traffic for ½ mile” is when the Sunken Mine Rd. parking lot is full; however, this may in fact be a viable alternative and will be investigated further to determine feasibility/connectivity to horse trail.
- 3 and 4) Given the fact that visitor’s to TOEC are most often school age children and the congestion in that area already, OPRHP does not support using the parking lot at TOEC for horse trailer parking due to security and safety concerns. The trails in the vicinity of Duck Pond are used for TOEC programming and remain for hiking only. And, as with comment 3, there is a safety and security of TOEC visitors given the proximity to the center’s use area.

Comment – Sunken Mine Road

Please improve and expand the parking area and reopen the trail to Hidden Lake for equestrians. Is there a way to connect the Sunken Mine Road trails to the Stillwater Lake trails? Is there a way to connect the southern parking lot by Sunken Mine Road to the trails?

Response:

Designating multi-use trails in this vicinity was discussed during analysis of the trail system. Due to the proximity of trails to water and wetland resources and other sensitive natural resources in this area, multi-use access was not considered appropriate in this instance. Sunken Mine Road is a town road. Multi-use access along Sunken Mine Road was discussed but due to sharp curves in the road, limited sight lines and very little shoulder area, this option was deemed unsafe.

Comment – Equestrian Use on Cross-Country Skiing Trails

Please restore equestrian use to the cross-country ski trails for non-winter use as long as the trails are dry. Signs could be placed to signify “open to horses” or “closed due to wet conditions” so as not to negatively impact the trails.

Response:

Per the trails plan, portions of the cross country ski trails are being designated for hiking, biking and equestrian use during the off season. Known wet areas are not included in the designated trail system. Mitigation measures for additional wet areas will be implemented as necessary.

Comment – Equestrian Use on Catfish Loop

Add equestrian use to Catfish Loop trail, Three Lakes Trail, Old Mine Rail Road, a portion of the Fahnestock Trail (to access CC from the Therapeutic Equestrian Center).

Response:

The trails plan provides for improved and additional multi-use (biking, equestrian) access in the park. State Parks will be monitoring the implementation of the trails plan and determine the type and extent of any adjustments needed to assure that the plan adequately addresses potential user conflicts and natural resource protection. Proposals to add additional trail access and uses in addition to those within the current plan will be considered during future updates of the trails plan.

Designating multi-uses on the Catfish Loop, Three Lakes and Old Mine Railroad Trails is not deemed appropriate due to parallel use trails or the location of sensitive natural resources in the vicinity. Equestrian access from Glynwood to Clove Creek Trail is provided via an undesignated trail and a short portion of the Fahnestock Trail.

Comment – Osborn Preserve

The Osborn Preserve has great trails; it could use some cleaning up in rocky areas, signage and the existing trails in that area could be extended for equestrian use. Add a connector from Osborn Loop to trails off South Mountain Pass and trailer parking off of South Mountain Pass.

Response:

Per the trails plan (see Figure 18), the majority of trails in the Osborn Preserve area will be designated for equestrian use. A trail extension south of South Mountain Pass Road will be further assessed in the future in coordination with the partners as listed in the Memorandum of Understanding for the AT as a section of the existing undesignated trail is within the AT corridor. OPRHP is working with DEC to establish horse trailer parking at the Castle Rock Unique Area.

Comment – Arden Point

Equestrians currently use Arden Point trails. Some have utilized the Camp Smith Trail, Anthony's Nose Trail, North & South Redoubt trails.

Response:

These trails are not designated for equestrian use. The trails plan includes designation of multi-use trails to accommodate equestrian use. Equestrians are asked to utilize existing designated horse trails or newly designated horse trails (once upgraded) only in the parks.

Comment – Proposed Bridge Over Route 301

Ensure that the bridge over Route 301 will allow and be designed for equestrian use as a connector from the Pelton Pond campground area to the Canopus Lake area.

Response:

Equestrian access to the Canopus Lake area will be further reviewed along with the potential development of a multi-use trail in the Wiccopee Area.

Trails Plan

Comment – Signage

Trailhead signage should be improved at all trails, even where a full kiosk is not needed. Signage should also be added that acknowledges that volunteers are responsible for the upkeep of trails in partnership with the Park, which will better inform the trail community and aid in recruitment of new volunteers.

Response:

The trails plan addresses the need to improve trail signage throughout the parks. Refer to Chapter IV.H. Implementation of the Trails Plan.

Comment – Trail Development

Adding 9.2 miles of new trail may be detrimental and may cause habitat fragmentation, especially in undeveloped areas.

Response:

The Final Trails Plan calls for development of 6.7 miles of new trail. The development of new trails was deemed appropriate through an analysis process to provide additional recreational opportunities in the parks while balancing protection of natural resources among other considerations. The majority of new trail mileage will be developed as singletrack (18-30 inch tread width). This generally requires little, if any, tree removal, therefore having minimal, if any, direct impact on tree canopy. The plan also calls for closing and, where appropriate, habitat restoration on over 11 miles of undesigantated trails.

Comment – Snowmobile Trails

Is snowmobiling no longer allowed? Where are the snowmobile / winter use trails in Fahnestock?

Response:

Snowmobile was once allowed in Fahnestock. However, use has declined consistently over the years, there is little demand for it according to the Recreational Index of Need (see page 3 of Chapter 2) and it is no longer considered a viable trail use. Weather conditions are typically not conducive to snowmobiling.

Comment – Appalachian Trail

It's time to reevaluate the MOA regarding the management of the Appalachian Trail. In the spirit of the MOU, and our long-standing relationship with OPRHP, I ask that before any final decisions regarding the A.T. are made, we have an opportunity to further discuss the portions of the Plan pertaining to the A.T. with all appropriate partners.

Response:

Proposed trails that are within or cross the AT corridor will be reviewed in the future through a coordinated and cooperative effort of the partners as listed in the Memorandum of Understanding for the AT. The trails plan has been revised and the proposed multi-use trail in the Wiccopee area of Fahnestock, the proposed alternate AT trail alignment and the multi-use loop south of Mountain Pass Road in Hudson Highlands – South are not included on the final map of the trails plan until such

time that the MOA is updated and these segments are specifically presented and discussed with AT representatives and concurrence reached.

Comment – Trail Development off of 301

Please reconsider the development of the new hiking trail on the former DOT lot on Route 301. It's a steep area and provides another entrance [to the park] from the highway.

Response:

Development of this trail was deemed an appropriate connection and complements the designation of the Perkins Access Trail and improvements to the parking area along Route 301. Development of this trail provides a number of loop trail opportunities of varying lengths in this vicinity. As the trails plan states, the final trail alignment is still to be determined and will require some reroutes to bypass existing unsustainable sections.

Comment – Separate Trails for Different Users

Why must there be so many new trails? Every user group does not require their own set of trails; trails should be more shared / multi-use to keep the forest and woods in tact. If the various user groups don't work together to have multi-use trails we're going to have this crisscross of trails and lose a lot of what makes the Highlands a special place for all of us.

Response:

The majority of new and newly designated trails in the trails plan are multi-use trails. The development/designation of single use (hiking) trails includes connections to and between single use trails.

Comment – Wiccopee Extension Trail

This is a relatively large undeveloped area that should remain that way. The area of the proposed trail expansion traverses very steep terrain. The runoff from the proposed new trail could cause sedimentation of Trout Creek and Wiccopee Creek.

Response:

This proposed trail has been removed from the final trails plan map. While the trail does provide a loop connection, there is a need for further assessment of impacts on resources. In addition, some of the AT management partners (as per the AT MOU) have expressed concern over the need for additional coordination as the trail is within and crosses the AT corridor. If considered in the future it will be reviewed through a coordinated and cooperative effort of the partners as listed in the Memorandum of Understanding for the AT and any adjacent property owners.

Comment – Single Track Trails

We need to focus on creating single-track trails because the double track trails get washed out and we keep having more intense rain storms every year. If we bring the trails back to single track it's better for hikers and bikers. It may also keep the ATVs and 4x4s out.

Response:

In the trails plan, Chapter IV.A.1. Trails states that efforts will be made to reduce the footprint of some trails by allowing them to grow in to a reduced tread width of 18-30 inches. Table 4 and Table 6 in the trails plan include proposed tread widths for all trails.

Comment – California Hill

Will there ever be access into California Hill from the eastern end of Fahnestock?

Response:

The trails plan includes two conceptual routes for the Highlands Trail at the eastern end of Fahnestock (see Figure 10 of the trails plan) that may provide this connection in the future. OPRHP will continue to work with NYNJTC, DEC, NYC DEP and adjacent landowners to explore a trail connection in this vicinity.

Comment – New Trail Uses

Where new uses for trails are allowed or new multi-use trails developed, it is important that these have their own logical circuits and points of access, and do not begin or end at a foot-only use trail.

Response:

All new multi-use trails have access from parking areas and, in most cases, provide loop trail opportunities.

Comment – Trail Ratings

Consider developing a more comprehensive trail rating system so hikers, bikers, etc. can get a better sense of how difficult a trail is before embarking.

Response:

Trail ratings will be considered as the trail signage of the parks is improved.

Comment – Mountain Bike Trails

Mountain bike groups are working with Scenic Hudson to create a new trail on their property. Located on the Pines, on the access road towards Dozer Junction and up through the Scenic Hudson property on the ridge. It would be great to tie this into another trail on the north end. Turning the lower part of the White trail [Fishkill Ridge Trail] into a multi-use trail would be good, too. Creating loop trails at Fahnestock would be really great.

Response:

Connections to the Hudson Highlands SP trail system will be reviewed on a case by case basis. The lower portion of the Fishkill Ridge Trail will remain as hiking only. As per the trails plan, biking access will be designated on Beacon Reservoir Road. A number of multi-use loop trails (including biking) are included in the trails plan for Fahnestock.

Comment – Trail Development—Canopus Lake and Candlewood Hill

1. A new hiking trail from the Lake Canopus beach heading north and ending at the Appalachian Trail is currently in the approval process. It should be added to the plan map. Also an existing blazed snowshoe trail heading north from the Lake Canopus beach parking area and heading north toward the AT is not shown on the map.
2. The proposed new bicycle trail running along the north park boundary is shown to cross the Appalachian Trail north of Canopus Lake. One alternative approach would be to change this into a lollipop shaped trail. Instead of the last segment heading east toward the AT, it could head west back toward the intersection with the Trout Brook Trail.

3. Please consider extending the Candlewood Hill Trail south toward Oscawana Lake into the area marked "Future Trail Development".

Response:

1. These trails are currently shown on the trails plan maps.
2. The trails plan does not include this trail at this time. Further review and discussion is required. The trails plan does add biking and equestrian use to the first section of the Trout Brook Trail to connect to the Wiccopee trail as an additional multi-use access route into the trail system.
3. This consideration is included in the trails plan as part of 'future trail development' in the Candlewood Hill Area. Further assessment is required prior to designation and development of trails in this area.

Comment – Reopen Closed Trails

Please consider reopening the section of the 3 Lakes Trail which was closed a few years ago. This runs south from the junction of the 3 Lakes and the Catfish Loop near the Duck Pond roughly following the route of the stream until it hits the Catfish Loop.

Response:

This section was closed for habitat and wildlife purposes. There are alternative routes nearby areas that provide for trail recreation.

Comment – Highlands Trail

1. The Highlands Trail is intended and constructed as a footpath and is most suitable for crossing the AT if permitted. The AT does not coalign with other trails unless absolutely necessary and forbids multiuse. The preferred route for the HT should be up to Picnic Point near the Wiccopee/Charcoal Burners and then across the Fresh Air piece to the snowshoe trail along the shore and to the beach. This results in a single crossing of the AT and no co-alignment with the AT.
2. Highlands Trail (HT) crosses to the east side of the Taconic State Parkway, it is proposed that it follow along Rt. 301 for about a mile, a route which is dangerous and unpleasant to walk or bike. The route should head south parallel to the Taconic as soon as possible after passing a wetland immediately adjacent to the Taconic. It would then pick up the proposed route about half a mile south of Rt. 301.

Response:

The alignment of the Highlands Trail through Fahnestock SP will be further reviewed and assessed. The trails plan does not currently recommend a final alignment for the Highlands Trail through Fahnestock SP.

Comment – Perkins Trail

Allowing bicycle traffic on the sections of the Perkins Trail where indicated will create many dangerous user conflicts. This trail is steep and subject to erosion in places and this section has many trail junctions so that such a routing would invite unauthorized bicycle traffic on many other trails. Bicycling could be allowed on the eastern section of the East Mountain Loop. When that trail branches off to the west, a bicycle trail could continue along the woods road currently marked to be

closed. Just before reaching the park boundary, a route could be found heading south back to the proposed new bicycle trail heading north from School Mountain Road.

Response:

The designation of a portion of the Perkins Trail for multi-uses (adding biking and equestrian use) allows for a large loop trail opportunity in the western portion of the park. Chapter IV.H. Implementation states that a portion of the Perkins Trail will need to be upgraded to multi-use standards. This may include minor reroutes to accommodate standards (e.g. slope) for the additional uses. The trails plan calls for improved intersection signage. Additional uses will not be allowed on newly-designated multi-use trails as per the trail plan until the necessary improvements are completed.

Comment – Overlook Trail / Bald Hill

Please consider developing a connector trail between the Overlook Trail NE across the top of the Malouf property to the Bald Hill loop. This would provide overnight camping on a loop trail and access to that side of the ridge. Mr. Malouf has offered assistance with construction and to maintain the trail upon completion.

Response:

Although this comment appears to pertain to Scenic Hudson and private lands adjacent to Hudson Highlands State Park, any new trail proposals that affect state park lands will be reviewed on a case by case basis. This review may also include discussions with Scenic Hudson staff, as appropriate. Development/designation of trails included in the trails plan will generally have priority over new trail proposals.

Comment – Overlook Trail

There is a proposed hiking trail from Beacon (Pocket Road) to the junction with Overlook trail. It is also shown as a proposed biking trail. It would make sense to keep hikers and bikers separate on this steep section of trail. The new trail should be designated bikes only, maintaining the existing trail for hikers only.

Response:

The trails plan includes designating the maintenance access road (Beacon Reservoir Road) as a multi-use (hiking, biking) trail while leaving the existing Fishkill Ridge Trail as hiking only.

Comment – Trail Types

The description of just two categories of hiking trails – developed and back country is inadequate. The draft trail design guidelines being developed by the Trail Conference include a more detailed categorization, important because of the design and construction differences they imply and require. Amend the Trail Development Standards for hiking as follows:

- (a) Hiking (developed, multi-track, high use); corridor clearance: 6-10'; treadway width: 4-8'; trail length: not applicable.
- (b) Hiking (primitive, single-track, low use): treadway width: 1-2'; trail length: not applicable.

We do note that OPRHP does not include Interpretive and Accessible trails as hiking trails and addresses them elsewhere.

Response:

The Trail Development Standards are provided as general standards and to be used as guidance. The standards may need to be modified in some cases to adjust to specific site conditions, to address the natural characteristics of the resource and/or for specific needs of a project. OPRHP will work with trail maintaining, user groups, the State Trails Council and natural resource stewardship staff on future revisions to the Trail Development Standards table.

Comment – Trail Maintenance

A number of specific comments were received regarding maintenance issues along trails that allow equestrian use.

Response:

Table 10 in the trails plan provides implementation steps for each trail including general maintenance recommendations. Specific maintenance issues will be dealt with as trails are upgraded and maintained as part of the implementation of this plan.

Persons/Organizations That Provided Comments

Name	Title	Organization
Rich Anderson	Assistant Director	Putnam Highlands Audubon Society
Jean C. Arledge		Putnam Horse Council
Connie Mayer-Bakall		
Sarah Bransom		Appalachian Trail—National Park Service
Alex Bunin		
Tom Cerchiara		Appalachian Trails Conservancy
Roger Coco		New York-New Jersey Trails Conference
Jane Daniels		
Walt Daniels		New York-New Jersey Trails Conference
Susan Daniels	Conservation Coordinator	Appalachian Trail Conservancy
Leigh Draper	E. Hudson Regional Rep.	New York-New Jersey Trails Conference
Paul Elconin	Stewardship Coordinator	Open Space Institute
Lilly & Roger Gair		
Cynthia Garcia	SEQRA Coordinator	NYC Dept. of Environmental Protection
Ryan Gardener		Hudson Highlanders Mountain Bike Club
Michael Gibbons	President	Garrison Fish and Game Club
Edward Goodell		
Wendy Grady		Putnam Horse Council
James Haggett	Chairman	Dutchess/Putnam AT Management Comm.
Gary Haugland	Chair. Highlands Trail East of the Hudson	New York-New Jersey Trails Conference
Pete Henderson		
Harvey Loeb		
Karen Lutz	Dir. Mid-Atlantic Region	Appalachian Trail Conservancy
John Magerlein		New York-New Jersey Trails Conference
Tom Magerlein		
Seth McKee	Land Conservation Dir.	Scenic Hudson
Ann O'Dell		
Rich Peters		NYS Dept. of Transportation
Rick Peterson		

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Daniel Platt		NYS Rifle & Pistol Assn. & CANY
Bob Proudman		Appalachian Trail Conservancy
David Rocco		
Ron Rosen		New York-New Jersey Trails Conference
Bill Rudge	Natural Resources Supervisor	NYS Dept. of Environmental Conservation
Peter Salmansohn		Audubon, LSPCA
Eric Scofield		
Katrina Shindledecker	Co-President	Friends of Fahnestock & Hudson Highlands
Jill Sprance		New York-New Jersey Trails Conference
Fred Stern		New York-New Jersey Trails Conference
Jean Swezey		Putnam Horse Council
Elizabeth Sylvestri		
John Teagle	Caretaker, Board Member	Little Stony Point Citizens Association

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