Final Master Plan/
Final Environmental Impact Statement

For

Grafton Lakes State Park

January 25, 2012

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

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SEQR

Notice Of Completion Of A Final EIS

Date of Notice: January 25, 2012

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

Title of Action: **Adoption and Implementation of a Master Plan for Grafton Lakes State Park**

SEQR Status: Type I

Location of Action: Grafton Lakes State Park is located at 100 Grafton Lakes State Park Way in the Town of Grafton in Rensselaer County.

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, potential environmental impacts and mitigation and the agency's responses to comments on the Draft Plan/DEIS.

Agencies and the public are afforded the opportunity to consider the FEIS. This consideration period ends on February 8, 2012. Copies of the Draft Plan/DEIS are available for review at the Park Office; at the offices of the agency contacts; and at the Grafton Community Library, 2455 NY Route 2, Grafton, NY and the Troy Public Library, 100 2nd Street, Troy, NY. The online version of the Master Plan/DEIS is available at the following publically accessible web site: **http://www.nysparks.com/inside-our-agency/master-plans.aspx**

Agency Contacts:

Alane Ball Chinian
Regional Director
Saratoga-Capital District Region
NYS OPRHP
19 Roosevelt Drive
Saratoga Springs NY 12866
Phone (518) 584-2000

Thomas B. Lyons, Director
Resource Management
NYS OPRHP
Agency Building 1, Empire State Plaza
Albany, NY 12238
(518) 474-0409

Or E-mail Comments to: Grafton.Plan@parks.ny.gov

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Final Master Plan/
Final Environmental Impact Statement

for

Grafton Lakes State Park

Town of Grafton, Rensselaer County

Prepared by
The New York State Office of Parks, Recreation
and Historic Preservation

Completed: January 25, 2012

Contact: Alane Ball Chinian, Regional Director
Saratoga-Capital District Region
NYS Office of Parks, Recreation and Historic Preservation
19 Roosevelt Drive
Saratoga Springs, NY 12886*)*
(518) 584-2000 x204
(518) 584-5694 (fax)

Thomas B. Lyons, Director of Resource Management
NYS Office of Parks, Recreation and Historic Preservation
Empire State Plaza
Agency Building 1
Albany, NY 12238
(518) 474-0409
Fax: (518) 474-7013

Email: Grafton.Plan@parks.ny.gov

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Acknowledgements

The Grafton Lakes 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 Final Master Plan Document.

Rose Harvey
Commissioner

Tom Alworth
Deputy Commissioner for Natural Resources

Alane Ball Chinian
Regional Director,
Saratoga-Capital District State Park Region

OPRHP Core Planning Team Members
Melissa Ann Miller, Park Manager
John Lowe, Park Manager
Kurt Kress, Capital Facilities Regional Manager
Casey Holzworth, Natural Resources Steward (Biologist)

Karen Terbush, Assoc. Environmental Analyst
Salim Chishti, RLA, Park Planner
Nancy Pierson, Assoc. Environmental Analyst (retired)

Master Plan Initiative Coordination
Thomas Lyons, Director of Resource Management
Diana Carter, Associate Natural Resource Planner

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Table of Contents

List of Appendices

List of Figures

List of Tables

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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 Grafton Lakes State Park. The Final Master Plan/Final Environmental Impact Statement (FEIS) was written to provide the opportunity for individuals, organizations and other government agencies to participate in the development of a State Park.

One public scoping/information meeting was held to gather information, concerns and issues surrounding the development and management of Grafton Lakes State Park. The meeting was held at Tamarac High School in the Town of Brunswick, NY on January 27, 2011. There was one public hearing regarding this final master plan at the Everett Wager Senior Center in Grafton, New York on November 29, 2011.

The Commissioner has decided that a Master Plan/EIS is necessary to guide the management and development of the resources at Grafton Lakes State Park. At this time the Commissioner has also decided that the final plan is to be made available for public review and comment. There has not been any decision regarding the adoption of the Final Master Plan.

Park Background

Grafton Lakes State Park is a day use park. It encompasses 2,545 acres in the Rensselaer County town of Grafton, New York. The park was established in 1963 with the purchase of land and lakes from the city of Troy which were no longer necessary for the city's water supply. The park was opened to the public in 1971.

The park is mostly forested and is within the Rensselaer Plateau Forest Legacy Area which was established in 2011. With the recent addition of land to the east of the main body of the park, including access to the White Lily Pond area, there are six lakes in the park, four of which are man made and two are natural. The central recreation area of the park is at the south end of Long Pond, the site of a beach and bath house complex. The park also has approximately 21 miles of trails, five picnic areas, seven pavilion and tent sites, boat rentals, snowshoe rentals and an environmental education & interpretation program. People also come to the park for fishing and hunting and to enjoy scenic views and wildlife observation.

Recently the Dickinson Hill Fire Tower was added to the park. This structure was put on the National Register of Historic Places in 2010. The park also has three local family cemeteries.

The park's swimming beach has often been cited in local newspapers as the most popular beach in the capital district (Albany, Schenectady and Troy, NY and the surrounding urban and suburban areas). This popularity, combined with its proximity to Albany and Troy, and its lakes and natural beauty, have made the park a prime location for urban dwellers to spend the day swimming and picnicking.

Environmental Setting

Physical Resources

Grafton Lakes State Park is located on the Rensselaer Plateau region of eastern New York State, which lies between the Taconic and Hudson Valleys. The bedrock under the park is mostly

Rensselaer Graywacke, a shale formation from the Cambrian period, with small, scattered occurrences of Nassau Formation. A poorly sorted sand-rich sedimentary glacial till of variable texture overlies the entire park. The main soils of the park are *Brayton very stony silt loam*, *Buckland very stony loam* and *Glover very stony loam*. Grafton Lakes State Park lies mostly between 1400 and 1600 feet above mean sea level and is mostly hilly with the majority of the slopes ranging around 15 percent.

Water Resources

Most of the park, including its lakes, is in the Poestenkill watershed. The lakes have good water quality, being located in watersheds that are mostly forested. Plant survey results indicate a balance of macrophyte biodiversity in all of the lakes. All of the lakes are mesotrophic or oligo-mesotrophic except for White Lily Pond which is eutrophic. Shaver Pond is also classified as an Oligotrophic-Dimictic Lake by the Natural Heritage Program for the purpose of describing its ecological community.

There are several un-named streams within the park, all are tributaries of the Quacken Kill, which is a tributary of the Poestenkill, and are classified “A” by the New York State Department of Environmental Conservation (DEC).

Wetlands

There are several wetlands regulated by DEC in or partially in the park. Numerous National Wetlands Inventory classified wetlands are located throughout the park.

Air

Rensselaer County is within the Capital Region Nonattainment Area for Ozone. Local emissions in the Albany area are the primary driver for the ozone exceedances. DEC maintains monitoring apparatus in the park at the Shaver Pond Nature Center. This installation records air quality and acid rain factors.

Climate

Grafton Lakes State Park enjoys a climate that is conducive to year-round recreation of many types. Summers are warm enough for enjoyment of the swimming beaches, picnicking and hiking the trails and the winter is conducive for all forms of winter activities on snow and ice.

Natural Resources

The Rensselaer Plateau is a regionally unique, largely forested area of over 100,000 acres. It is one of the largest and most ecologically intact native habitats in New York State. New York State’s Open Space Plan includes the plateau as a priority project for acquisition. In December of 2010 the US Department of Agriculture Forest Service approved designation of the plateau as a forest legacy area. Upland forests dominate the park and include roughly equal portions of spruce-northern hardwood forest, hemlock-northern hardwood, and beech-maple mesic forest. Spruce-fir swamps and beaver impounded wetlands and meadows occupy area lowlands. The predominant terrestrial natural communities in the park foster habitats for mammal species similar to those in the Adirondacks. Many common species found in the Capital District area may be found in the Park. The park’s lakes and wetlands provide habitat for a range of animal species, including native and managed fish populations and amphibians. The park is part of the “Rensselaer Plateau Important Bird Area” of the National Audubon Society and hosts nesting

activity of a variety of birds. Grafton Lakes State Park has had known nesting sites of three State Special Concern woodland raptors as recently as 2003.

Significant Ecological Communities

Four of the communities found in the park are identified by the Natural Heritage Program (NHP) as significant ecological communities. They are the *beech maple mesic forest*, the *hemlock-northern hardwood forest*, *spruce-northern hardwood forest* and *oligotrophic dimictic lake*.

Terrestrial and Aquatic Invasive Species

No large stands of terrestrial invasive species are present in the park, however Japanese barberry, bush honeysuckle, garlic mustard and multiflora rose have all been found in the park at various locations.

In terms of aquatic environments, a large stand of common reed is located around White Lily Pond, but only small populations have been found in other wetlands in the park. Eurasian watermilfoil is found in two of the park's lakes.

Cultural Resources

Cemeteries

There are four family cemeteries within the park. These four burial grounds vary in date and condition of the landscaping and monuments.

Dickinson Hill Fire Tower

Built in 1924, the tower was part of the network of fire protection observation posts until the 1970's. The city of Troy contributed funds for the original construction in order to protect its watershed. The tower also saw duty as part of the Aircraft Warning Service during World War II. For 18 years, beginning in 1943, the tower was operated by New York State's first woman fire observer, Helen Ellett, a Grafton resident.

Scenic Resources

The park is set amidst rolling hills and moderate slopes and valleys that are typical of the Rensselaer Plateau. These landforms produce scenic qualities that are of high value. Expansive lake views and views from hilltops enhance the scenic desirability of the park. The major vista in the park is that from the Dickinson Hill Fire Tower. The tower's cab, 60 feet above the ground atop Dickinson Hill, commands a sweeping three hundred sixty degree view of the surrounding lands. In other parts of the park lake views take in surrounding shorelines and unbroken hilltop profiles that express the nature of the rolling topography in this area.

Recreation Resources

Grafton Lakes State Park is currently a day use park. The park supports swimming, boating, picnicking -, with playgrounds, pavilions and large format canopy tents for group picnics, court and field games, hunting, fishing, environmental education and interpretation, geocaching, orienteering, ice-skating, ice-fishing and trail activities. Trail activities include equestrian, hiking, bicycling, snowshoeing, cross-country skiing, and snowmobiling. Snowmobile trails include several trails that connect to the statewide snowmobile trail network.

Vision and Goals

The vision for Grafton Lakes State Park is to serve the residents of, and visitors to, New York State by identifying, preserving, protecting and interpreting the natural, scenic and cultural resources in Grafton Lakes State Park while providing a variety of high quality year round recreation and environmental education opportunities. The park will serve as a statewide model for education and interpretive programming of the natural environment.

In order to accomplish this vision OPRHP must strive to:

- Achieve a balance between providing diverse recreational opportunities and the protection of natural and cultural resources of Grafton Lakes State Park
- Make available compatible public environmental and historic education and interpretive programs
- Provide the facilities and staff necessary to establish the park as a statewide education and interpretation model.
- Promote underutilized areas, off season attendance and less attended activities in the park using education staff the friends group and volunteers.
- Maintain the park to provide a safe and enjoyable recreation experience
- Promote the gathering of information about the resources in the park for the purpose of proper management or scientific research.

The goals set forth for the park and this master plan protect, maintain and expand open space opportunities adjacent to and connected with the park and make access to the park safe and convenient for patrons using all modes of transportation.

Additionally the park and its facilities will be operated and maintained in a cost effective way that is sustainable, and exhibits a high degree of professionalism, to establish links between the park and surrounding community and to promote partnerships between the park and its users.

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

The Master Plan alternative presents several park improvements which pertain to resource protection and recreation development. The items in the following list are more extensively described in Chapter 6 – The Master Plan. The alternatives and analysis used to arrive at these decisions are depicted in Appendix A – Alternatives and Analysis.

Natural Resource Protection

- Park area south of NYS Route 2 will be named a Park Preservation Area.
- The park will be named a Bird Conservation Area.
- The entire park will be identified as an Invasive Species Prevention Zone (ISPZ) (A park or an area in a park that has little or no populations of invasive species. Special efforts are made to remove any that exist and to keep out new invasives.)

- A water quality testing program, including nutrient loading will be continued in all the park's lakes.
- Stormwater runoff at the beach area will be directed to constructed rain gardens before entering the stormwater drainage system and Long Pond.
- Aquatic invasive species will be closely monitored. Boat washing stations, invasive species containers, and user education will be implemented at all lakes and at the park entrance.

Recreation Resource Development/Management

- Camping will be initiated in the park at an area on the north side of the beach area along the road to the water tower. A conceptual plan has been developed. The site has several limitations due to soil type, slope, vegetative cover and proximity to Long Pond. The actual number of sites will be determined through more detailed design that will assure protection of the park's natural resources while addressing demand for camping.
- Cabins will be installed at the site of the former YMCA campground at the White Lily Pond area entrance and across the access road to the new campground. Those at White Lily Pond area will be all season cabins and will be accessible from the park trail system as well as Babcock Lake Rd. The cabins at the new campground area will only be operated during the park's regular season.
- A new, all season, nature center will be constructed on the main park road near the area of the trailhead of the Woodland Trail. The nature center will accommodate the Environmental Education & Interpretation functions of the park.
- A Feasibility study is being recommended for trail crossings on the outflow of Martin Dunham Reservoir.
- If needed, a feasibility study will examine the possibility of adding a second beach to Long Pond
- The south picnic grove will be rehabilitated, the Amphitheater Pavilion will be replaced with a larger structure and a new playground will be installed. The north picnic grove will be dismantled and allowed to revert to natural community.
- All large canopy tents will be replaced with permanent pavilion structures and a new, second pavilion, will be installed at Deerfield.
- Full basketball courts will be installed at Rabbit Run and Deerfield. A Bocce court will be installed at Deerfield.
- The Dickinson Hill Fire Tower will continue to be restored and will be open to the public when the restoration is complete.
- Shaver Pond nature center will be converted for other uses. The DEC monitoring station will become part of the new nature center, providing the public with another educational opportunity.
- Implement the Grafton Lakes State Park Trails Plan (Appendix B). Key components of the plan include:
    - Maintain the trail system for designated uses including hiking, biking, horseback riding, snowshoeing, cross-country skiing and snowmobiling.

- Provide increased trail opportunities and connections within the park's trail system as well as external connections to trails on nearby public lands.
- Enhance trail opportunities and accessibility in high-use areas.
- Improve trail signage including trailhead and trail intersection signage throughout the park to enhance the visitor experience and increase patron safety.
- Enhance interpretation of natural, cultural and historical resources along trails.

Park Operations

- A new park office will be built on the main park road north of the current contact station. It will include facilities for camper registration (including adequate parking and traffic circulation), park information services, and park administration offices.
- Upgrades will be made to several park maintenance buildings.

Implementation

Priorities

The Master Plan sets forth OPRHP's vision for capital improvements, operational enhancements and natural resource stewardship projects in Grafton Lakes State Park for the next ten to fifteen years. As stated at the beginning of this chapter, the agency has not developed detailed cost estimates for each of the proposed actions. Cumulatively they will cost tens of millions of dollars to implement. The pace and sequencing of recommended actions will be determined by the availability of funding, which is a function of the size of OPRHP's annual capital budget and the need to balance investments throughout the entire State Park System. The master plan will be reviewed annually to select projects that will be added to the park's budget for implementation and to assess the progress of plan implementation.

The implementation of the Master Plan for Grafton Lakes State Park is divided into three priority phases. The priority groupings described below are conceptual and subject to reorganization based on available funding for specific components in any given group.

Table 1 Implementation Priorities (projects within the priority levels are not in any particular order)

Implementation Priorities	**Description/Development Component**
Immediate	• Park Preservation Area creation • Bird Conservation Area creation • Invasive Species Prevention Zone creation
On Going	• Water quality monitoring of Park's lakes and ponds • Invasive species monitoring • Reduced mowing program • Replace all tents with permanent pavilion shelters • Follow implementation priorities in the trails plan
Priority 1:	• Design and install new nature center • Nutrient monitoring in Long Pond post campground construction. • Install invasive species protection measures (boat wash station, IS disposal bins) and inventory the park for existing invasive species • Rehabilitate south picnic area • Rehabilitate existing facilities • Install new playgrounds in south picnic area and campground • Finish restoration of Dickinson Hill Fire Tower and open to public • Install new rain gardens at beach area • Detailed aquatic plant survey • Survey park for rare plants and animals (prior to development of new trails or facilities)
Priority 2:	• Design and install new campground • Design and install new cabins • Build new park office/camper registration at main park entrance • Nutrient monitoring in Shaver Pond post nature center construction • Install new full basketball court at Rabbit Run

Priority 3:	• Replace south picnic area Amphitheatre pavilion with larger pavilion • Install second pavilion at Deerfield • Expand existing ½ court to full basketball court at Deerfield • Install Bocce court at Deerfield • Convert Shaver Pond Nature Center to other park uses • Begin feasibility study for outflow of Martin Dunham Reservoir • If needed conduct feasibility study for additional beach on Long Pond

Environmental Impacts

Environmental impacts associated with implementation of the master plan have been addressed under general categories.

The plan will result in some physical change to land particularly where new recreation facilities and trails will be constructed. Proposed developments in areas of the park that are already developed will result in minimal new disturbance. Proposals potentially involving new land disturbance include the introduction of camping, new nature center, new cabins and some new trails. Since soils in the park are limiting factors for recreational development, careful planning and site-specific design will be applied as mitigation for all facilities to minimize the potential for erosion.

The master plan will result in beneficial impacts to Long Pond and Second Pond by reducing stormwater runoff into the lake from the beach through the installation of rain gardens and improvement of the drainage system. Projects with the greatest potential to impact lake water quality include the new Nature Center in the Shaver Pond watershed, the introduction of camping in the Long Pond watershed, and the proposed cabins in the White Lily pond watershed. The existing water quality monitoring at the park's lakes will continue in order to help detect and mitigate changes due to development. Wide vegetated buffers will be retained between these developments and the lakes. Pervious pavements and green designs such as rain gardens will be used to reduce the velocity of stormwater runoff. Design of new trails will minimize stream crossings and provide buffers between trails and water bodies. A more detailed survey will be conducted to determine the locations and extent of Eurasian watermilfoil and steps will be taken to remove it from Long and Mill Ponds and prevent their spread to other park lakes.

Some minor, localized and temporary impacts to air quality may occur. These impacts will be mitigated through design and operational elements.

The Bird Conservation Area and Park Preservation Area will provide recognition, increased recreation and an additional natural resource protection.

Approximately 16 acres of vegetation could be impacted by proposals within the master Plan. This amounts to approximately 0.6 percent of the parkland. Some of the proposed developments will impact significant ecological communities. The total area impacted will likely be reduced through designing facilities and trails to minimize the amount of tree removal wherever possible. Surveys for rare plants and animals will be conducted prior to development of any new trails or facilities. Grafton Lakes SP is part of the Rensselaer Plateau which contains the fifth largest unfragmented forest in the state, an important habitat for many wildlife species. New developments proposed in the master plan were carefully located to minimize forest fragmentation to the extent possible. The park currently has considerable diversity of native

plants and animals and also very limited invasive species population as a result, the Master Plan calls for creation of an ISPZ for the entire park where efforts will be made to eliminate the existing invasives and prevent new invasions.

The Master Plan calls for continuing the restoration of the historic Dickenson Hill Fire Tower and surveying and protection of the four cemeteries in the park. A Phase 1A archeological survey will be conducted prior to any new ground disturbing development. Scenic resources will be protected though the development of a scenic resource management plan.

Implementation of the Master Plan will result in substantial beneficial recreation and open space impacts through improved and expanded recreation facilities and amenities.

Introduction of camping into the park could increase traffic during the summer months. As mitigation, camping patrons will be encouraged to walk to day use facilities on improved trails and day users will be encouraged to take the bus to the park. New facilities will be designed to meet all applicable health and safety codes as well as incorporate sustainability principles and energy efficiency.

As part of the Agency's responsibility under SEQR, all proposed master plan implementation projects will be reviewed for consistency with the Master Plan/EIS. Projects not adequately covered within the Master Plan/EIS may need additional environmental review.

Response to Comments

The Draft Master Plan/DEIS was issued on November 9, 2011 A Public Hearing was held in Grafton, New York at the Everett Wager Senior Center on November 29, 2011. The comment period ended December 16, 2011.

During the Public Hearing 16 people spoke out of approximately 50 attendees. During the comment period the Agency received 22 written comments by letter and email.

Responses to these comments are found in Chapter 8 and were considered in the revisions found in this Final Master Plan/Final Environmental Impact Statement (FEIS).

Significant Changes to the Draft Master Plan in the Final Master Plan

- Campground has been moved from Long Pond Road to the area north of the Long Pond beach at the end of Water Tower Rd. Master plan pages xvii and 60. Appendix A page A-22 to A-24, Figure A5 and Master Plan Map.
- The implementation tables have been changed to include rehabilitation of existing facilities in Priority 1 (pages xix and 65).
- Changes have been made to the Environmental Impacts and Mitigation Chapter on pages 68, 69, 74, 75,78 and 80 to reflect the change in location of the proposed camping area. These changes reflect a smaller area of parkland potentially being impacted (16 acres instead of 23) and changes in: the amounts of new impervious surfaces, ecological communities impacted, and fragmentation discussion. Additional information has also been provided under Public Health and Safety.

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Chapter 1 – Introduction

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) administers over 200 state parks and historic sites encompassing more than 330,000 acres of parkland. Under Section 3.02 of the Parks, Recreation & Historic Preservation Law, OPRHP is directed "…to conserve, protect and enhance the natural, ecological, historic, cultural and recreational resources contained therein and to provide for the public enjoyment of and access to these resources in a manner which will protect them for future generations." Master planning is a critical element in the process to meet the substantial responsibilities to provide recreation while at the same time protecting and interpreting resources. The Master Plan process explores the parks' or sites' existing physical, natural, cultural, recreational and structural resources. It evaluates the condition of these resources to provide recreation and interpretive opportunities within healthy and productive environments. The process calls for the development and consideration of alternatives that enhance the stewardship of natural, cultural and historic resources and improve the recreational opportunities and experiences offered at the park. The master plan is the selection of preferred alternatives that best meet OPRHP's mission and the vision for the park or site.

OPRHP has determined that the preparation of a master plan for Grafton Lakes State Park will further its mission 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.

Establishment of the park

Grafton Lakes State Park was established in 1963 with the acquisition of the City of Troy's former reservoir properties located in the Town of Grafton. The acquisition comprised four lakes and Dunham Reservoir, totaling about 480 acres of water area, and approximately 675 acres of adjacent land. Before the creation of Grafton Lakes State Park there was no state park in Rensselaer County and public demand for one was strong. The park was opened in 1971. Subsequent acquisitions have brought the total park acreage to 2,545 acres.

Planning that has been done in the past

In 1965 a general development plan was completed by Blauvelt Engineering Company for the portion of the park north of NYS Route 2. The plan included picnic areas, buildings, roads, maintenance areas, camping, two swimming beaches located on the north and south ends of Long Pond, and a golf course. Parts of the plan, notably the southern beach and some picnic areas, were constructed. The golf course and camping areas were never built.

In 1968 Blauvelt Engineering Company was hired to draw up a plan for the development of the southern end of Long Pond including an entrance from NYS Route 2 and internal park roads and parking lots. Epping, Whitney & Fox was retained to draw up plans for the beach and concession complex on Long Pond in 1969.

In their 1969 plan, *Outdoor Recreation for the Capital District New York*, Vollmer and Associates documented that the initial stage of park development (presumably the 1968 Blauvelt plan and the 1969 Epping Whitney & Fox plan) was under construction including a major road to the future bathhouse, beach complex, parking areas and sewage and utility plants. The Vollmer document also stated that the design of major park structures was in process. (Vollmer, 1969)

In addition to documenting the current status of development at Grafton Lakes State Park at the time, the 1969 plan included a section on Grafton Lakes State Park that suggested direction for acquisition, access and recreation facilities. The plan did not include the golf course and some of the camping areas that were in the 1965 Blauvelt plan. The plan did include another beach at the north end of Long Pond.

In 1971 plans were created by Vollmer Associates for a camping area on the east side of Long Pond and in 1974 OPRHP created plans for improvements at various day-use areas.

In the 1980's plans were again submitted by the Region to provide camping at the park. As of the writing of this master plan no camping areas have been developed at the park.

Planning and 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). Under SEQR, agencies consider environmental impacts with social and economic factors early in decision-making and the planning/project design process. Land use or resource management plans are considered Type I actions under SEQR, or likely to have a significant impact on the environment and require preparation of an Environmental Impact Statement (EIS). OPRHP fully integrates the planning and environmental review processes. This document serves as both the Master Plan and the EIS for Grafton Lakes State Park.

Guiding Principles and Policies

The OPRHP planning process adheres to three basic principles:

- 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.
- Planning is a continuing process: Assumptions for the classification and management of park resources must be constantly reevaluated 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.

Overarching OPRHP program principles, policies, and goals and objectives provide a foundation for planning, development, and operation and management decisions made during the master plan process. The following sections summarize current directives considered throughout the planning process for Grafton Lakes State Park.

OPRHP Policies

OPRHP has developed a number of agency-wide policies to address management issues commonly faced by the park system. Policies cover topics such as the management of trees and other vegetation, pesticide use, wildfire and controlled burns, oil, gas and mineral rights, wildlife management and native plants. Visit our website and go to the following links to view our Agency policies. **http://nysparks.com/environment/documents.aspx**

Sustainability

Sustainability is a philosophy on how to improve, operate and maintain State Parks and Historic Sites, while at the same time, minimizing or reducing 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 needs of other living creatures and 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. Sustainable practices and alternatives were considered in the planning process and incorporated throughout the Master Plan.

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 and represented with the master plan. These principles are: to start with 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.

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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). Grafton Lakes State Park is in the Saratoga-Capital District park region. This region covers Albany, Rensselaer, Montgomery, Schenectady, and Schoharie counties as well as parts of Fulton, Saratoga, Washington, Greene, and Warren Counties.

Location and Access

Grafton Lakes State Park is located in the Town of Grafton in Rensselaer County on the Rensselaer Plateau between the Taconic and Hudson Valleys. (Figure 1) New York State (NYS) Route 2 divides the park into north and south sections. Grafton Lake State Park Way, the main summer entrance to the northern part of the park, the lakes, and the day use areas is on NYS Route 2 and is accessible by vehicles, pedestrians and bicyclists. Vehicles coming from the west use a right-hand pull off known as the "jug-handle" to cross Route 2, effectively making a left turn into the park without blocking traffic on Route 2. Vehicles coming from the east simply turn right onto Grafton Lake State Park Way (Figure A7). During the winter patrons are directed to the entrance on Long Pond Road approximately 0.7 miles to the east of Grafton Lake State Park Way, in the Grafton town center.

During the summer months the park is accessible from Troy by bus operated by the Capital District Transportation Authority (CDTA, 2010). Two other vehicular, pedestrian and bicycle entrances to the park are provided off of NYS Route 2 at Shaver Pond Road and North Long Pond Road.

Dunham Reservoir and the southern portion of the park are accessible by motor vehicle, on foot and bicycle from NYS Route 2 on Dunham Reservoir Road and Johnson Road. A boat dock located at the southern end of the reservoir is accessible from Dunham Reservoir Road while a boat launch at the northern end of the reservoir is accessible from Johnson Road.

Equestrian trailer parking is provided at several parking lots to provide for their access to the park. The main parking lot at the beach area is not used for this purpose during the summer. Equestrians use the Mill Pond parking lot, the parking lot at the north end of Long Pond and an open field across from the Second Pond boat launch. On the south side of NYS Route 2 equestrian trailer access is available at parking areas on Johnson Road and Dunham Reservoir Road. For riding access between the northern and southern sections of the park, equestrians typically cross Route 2 while utilizing Grafton Lakes State Park Way and Gartler Trail. Snowmobile access to the park is by trailer and by connections to external snowmobile trail systems through Corridor 9 (C9) to the north and south. Secondary snowmobile trails access the park on Fire Tower Road, Johnston Road and Long Pond Road. The main park entrance road is not plowed from Rt 2 to the office/shop intersection and becomes a wide section of the C9 snowmobile trail. More information about snowmobile access can be found in Appendix B – Trails Plan.

Snowmobile trailers can be accommodated at several parking areas in the park. These parking areas are:

- Main parking lot
- Parking area at the shop
- Mill Pond parking area,
- Parking area at the end of Long Pond Road
- DeRocco's house on Long Pond Road (the "Stone House")
- Two parking areas on Dunham Reservoir Road

Economic Contribution

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 annual state and visitor spending at all New York 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 Saratoga-Capital District park region, which includes Grafton Lakes State Park, the figures are $249 million and 2,929 jobs. State expenditures in the Saratoga-Capital District park region during fiscal year 2008-9 were $47.6 million (this number includes the central administrative activities that are located in Albany) for operating expenses and $11 million for capital expenditures. Visitor expenditures within the region for the 2007/8 season were estimated to be between $56.1 and $115.5 million based on an attendance of 3,300,000. The low-end estimate is calculated by assuming that park visitors spend, on average, $17 per person. The high-end estimate is calculated by assuming that spending levels amounted to $35 per visitor. (Heintz, Pollin and Garrett-Peltier, 2009)

When available, OPRHP conducts analyses of the economic impact of individual state parks on their communities drawing upon information provided by the National Park Service in their "Money Generation Model" and from OPRHP park visitor surveys. No recent survey of economic contributions at Grafton Lakes State Park has been conducted.

Ecosystems within state parks provide many support services to communities, such as reducing negative effects of pollution, supporting soils and providing erosion control, protecting water quality, providing flood and storm protection, and supporting critical ecosystems and wildlife habitats.

Recreational Needs Assessment

Grafton Lakes State Park is a popular regional park which serves the public mostly from Rensselaer County, including the City of Troy, and Albany County. According to the latest user survey of the park, taken in the summer of 2010, the majority of park users come from Rensselaer and Albany counties with a few patrons from northern Columbia county, southern Washington county and southeastern Saratoga county. Based on the survey findings, the master plan identifies Rensselaer and Albany counties as the service area of the park.

The "Relative Index of Needs" (RIN) compares the service area need relative with the statewide level of need for each activity. This is expressed with a numerical scale, 10 being the highest relative level of need and 1 the least. Five is considered the statewide average in the current year (in this case the most recent numbers available are for 2005). For each activity in the service area there is a future need for all activities but the relative level will vary depending on the activity and the county. (OPRHP, 2008)

The Relative Index of Needs for Rensselaer and Albany counties is summarized in Table 2. (OPRHP, 2008) The index of needs over the entire service area was calculated using a weighted average of the two counties based on population. The resulting figure expresses demand for a

particular activity within the service area. A score of 5 is equal to the state average for that activity. Those activities which score a weighted average of 5 or more (indicating that they are at or above the statewide average) are bolded in the table to highlight their ranking.

Table 2 Relative Index of Needs
(Results with weighted averages of 5 or greater are bolded)*

Activity	Albany	Rensselaer	Weighted Average
Relaxing in the Park	3	3	3
Swimming	**5**	**5**	**5**
Biking	**6**	**5**	**5.66**
Golfing	**5**	**5**	**5**
Walking for Pleasure	**6**	**5**	**5.66**
Tennis	4	4	4
Court Games	3	3	3
Field Games	4	4	4
Equine Activities	**6**	**5**	**5.66**
Visiting Historic Sites	4	4	4
Camping	**6**	**5**	**5.66**
Hiking	**6**	**6**	**6**
Boating	**7**	**6**	**6.66**
Fishing	**6**	**5**	**5.66**
Local Winter	4	4	4
X-Country Skiing	**6**	**5**	**5.66**
Downhill Skiing	**5**	**5**	**5**
Snowmobiling	**5**	**5**	**5**

***Source: 2009-2013 Statewide Comprehensive Outdoor Recreation Plan (OPRHP, 2008)**

The Park

Park Boundaries

The entire park lies within the Town of Grafton (Figure 2) and is divided into north and south sections by NYS Route 2. The boundary of the north section extends north from NYS Route 2 along Shaver Pond Road for approximately 1.5 miles. The boundary then heads east irregularly for approximately 3 miles. It then turns south to Babcock Lake Road where it follows that road for a little more than .5 miles. It then turns north again, past White Lily Pond and then for .3 miles where it turns south again. It then turns approximately west, paralleling NYS Route 2 until it turns south to NYS Route 2 and heads west to the starting point at Shaver Pond Road.

The south section boundary is very irregular and is bounded on the north by NYS Route 2, on the west by Dunham Reservoir Road. The eastern boundary runs approximately north-south irregularly.

A recently acquired outlying parcel of approximately 120 acres lies to the north of the park on Couch Hollow Road Ext. The boundary is not contiguous with the rest of the northern section of the park. It is bordered on the west by Couch Hollow Road Ext. and on the East by Couch Hollow Creek.

The park has also acquired the Dickinson Hill Fire Tower. The tower sits on land that remains in the ownership of the New York State Police (NYSP). A memorandum of understanding between OPRHP and NYSP (OPRHP, 2010a) enumerates the rights and responsibilities of each party.

Surrounding Land Uses

Grafton Lakes State Park is situated approximately in the center of the Town of Grafton. The immediate surrounding land uses are primarily rural residential and agricultural. The town center of Grafton is adjacent to the park on NYS Route 2 and contains some commercial uses. Light industrial and commercial enterprises exist along the Route 2 corridor east and west of the park. (Figure 3)

The New York State Department of Environmental Conservation (DEC) operates Pittstown State Forest to the north of the park. Rensselaer County operates Dyken Pond Environmental Education Center south of the park. Rensselaer Polytechnic Institute owns much of the land on the northern boundary between the park and Pittstown State Forest. The institute uses this land primarily for research purposes.

Area Resources

Points of interest in the vicinity of Grafton Lakes State Park include the Berkshire Bird Paradise, Dyken Pond Environmental Education Center, and the Grafton Peace Pagoda (See Figure 1 – Vicinity Map).

Programs and Partnerships

Grafton Lakes State Park lies within a portion of the Rensselaer Plateau which has been identified as an Important Bird Area by The Audubon Society (Audubon, 2010). DEC has also proposed the Rensselaer Plateau Forest Legacy Area under the Forest Legacy Program (FLP); a federal grant program that protects forest lands from conversion to non-forest uses (NYSDEC, 2010d).

The Rensselaer Plateau Alliance is working on developing a comprehensive conservation plan for the plateau and is supporting the establishment of the Rensselaer Plateau Forest Legacy Area (Rensselaer Plateau Alliance, 2010).

The park plans to continue working with these (above) and other agencies and organizations for conservation collaboration.

The park maintains a relationship with the Friends of Grafton Lakes State Park through a Memorandum of Agreement (MOA). The friends volunteer in the park to support and promote the environmental education programs and other activities.

OPRHP and the Division of Air Resources of DEC have a Memorandum of Understanding (MOU) for operation of an acid deposition monitoring site at the Shaver Pond Environmental Center (SPEC).

The concessionaire for Grafton Lakes State Park is Brunswick Barbecue & Brew has a 3 year contract (2011-2013) with State Parks to provide food service at the beach concession stand in the park.

OPRHP and the New York State Police (NYSP) have signed an MOU for transferring the Dickinson Hill Fire Tower ownership and management to OPRHP while maintaining NYSP ownership of the land surrounding the tower.

The yearly “Trout in the Classroom” program is a cooperative effort between the park and Trout Unlimited. This program raises trout with a local school group for eventual release into Shaver Pond.

Partnering with user groups is an important part of the management of Grafton Lakes State Park. The Grafton Trail Blazers, the Grafton Trail Riders, the Empire Orienteering Club, the Mohawk Hudson Cycling Club and Capital MTB and local scouting organizations work with the park on service projects and maintenance programs.

On-going Planning

Rehabilitation of Martin Dunham Reservoir Dam and Dike. The Dunham Reservoir Dam is scheduled to be rehabilitated and is a part of the Saratoga-Capital District capital plan. The design report was completed in 2008. (Civil Dynamics, 2008)

Legal Considerations

Deed Restrictions

Cemeteries – There are deed restrictions for the Hicks cemetery. The deed for that cemetery states:

> *"The vendors reserve the right of ingress and egress by foot over Shaver Pond Road from the east line of Parcel No. 1 as shown on said map to the cemetery plot shown on north side of Shaver Pond Road;*
> *The vendors reserve the right to enclose said cemetery plot with a suitable fence not to exceed 4 feet in height and not to exceed an area of 300 square feet.*
> *Said cemetery plot shall be preserved.*
> *The vendors, their heirs or assigns, shall have the right to remove the remains of deceased herein interred and grave markers, and if this is accomplished, the right of ingress and egress shall terminate."* (Deed, 1967)

No other cemeteries in the park have restrictions or are mentioned in the property deeds.

Utility Right-of-way – A power line runs in between Long Pond Road and Long Pond. It was used to supply electricity to the cottages that once existed along the road. Deeds for the properties along the route consistently say "*Subject to public utility easements*." The park maintains a trail along the route of the power line.

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Chapter 3 - Environmental Setting

Physical Resources

Geology

Grafton Lakes State Park is centrally located in the Town of Grafton, Rensselaer County on the Rensselaer Plateau region of eastern New York State (Figure 4). The plateau lies between the Taconic and Hudson Valleys and covers approximately 105,000 acres. It sits above the lower-elevation surrounding lands bounded by a steep escarpment. (Rensselaer Plateau Alliance, 2010).

Bedrock

Almost the entire park is underlain by Rensselaer Graywacke, a shale formation from the Cambrian period. In small, scattered portions of the park the bedrock is Nassau Formation, a formation of shale, slate, and thin quartzite containing Stuyvesant Conglomerate, Diamond Rock Quartzite, Curtis Mountain Quartzite and Bomoseen Graywacke members. (USGS, 2010)

Graywacke is valued as a source of crushed stone and is mined in the surrounding area.

Surficial Geology

A glacial till of variable texture overlies the entire park. This till is a poorly sorted sand-rich diamict (sediment) deposited beneath glacial ice, with a variable thickness from a little over 3 feet to 165 feet. (Figure 5)

No faults traverse the park itself but several faults occur within one mile of the park boundary and the Rensselaer Plateau is bordered by thrust faults on the west and east sides (Rensselaer Plateau Alliance, 2010). Little seismic activity has occurred in Rensselaer County from 1970 through 2009 (only one occurrence of a less than magnitude 2.) (NYSDEC, 2009)

Topography

The topography of Grafton Lakes State Park is mostly hilly with the majority of the slopes ranging around 15 percent. Approximately 10% of the slopes in the park are 15 to 20 percent. The elevations of the park are mostly between 1400 and 1600 feet above mean sea level with the high point of the park in the northeast and the low point in the southwest part of the park. (Figures 6 and 7)

Soils

Brayton very stony silt loam and *Buckland very stony loam* comprise the majority of the soils at the park. The third most prevalent soil is *Glover very stony loam*. (Figure 8) All of these soils have limitations to certain types of development such as small commercial buildings, recreation uses, and trails. (NRCS, 2010) A description of the soils and these restrictions can be found in Appendix C.

Water

Watershed

Most of the park, including all of the lakes, is in the Poestenkill watershed, which is part of the larger Middle Hudson watershed. A small portion of the northern section of the park is in the Hoosick River watershed.

Each lake has its own drainage basin (sub-watershed). These basins have an effect on the water quality in the lakes and vary in size, vegetative cover and level of development. The larger watersheds and the individual lake drainage basins are shown in Figure 9.

Lakes

There are six lakes at Grafton Lakes State Park (Figure 10): Long Pond, Second Pond, Mill Pond, Shaver Pond, the area around White Lily Pond and Martin Dunham Reservoir. Shaver Pond and White Lily Pond are natural. All the other lakes are man-made and formed by dams. Before acquisition by OPRHP the lakes in the park were part of the water supply of Troy, New York.

Water quality monitoring and aquatic plant surveys were conducted at these lakes by the OPRHP Environmental Management Bureau (EMB) Water Quality Unit from 2002 through 2010. In addition, data was also collected by OPRHP for select lakes in the 1970s and 1980s and through the New York Citizens Statewide Lake Assessment Program (CSLAP) from 1994 through 2003. A report of the summary of monitoring as of 1999 in Long Pond is cited in Kishbaugh and Hohenstein, 2000.

Overall, the lakes have good water quality, being located within mostly forested watersheds. The park boundaries encompass the entire watersheds for almost all of the lakes, except Martin Dunham Reservoir and White Lily Pond. All of the lakes are mesotrophic or oligo-mesotrophic, with moderate nutrient loads and water clarity, except White Lily Pond, which is eutrophic, with high nutrient loads and low water clarity. Plant survey results indicate a good balance of aquatic plant diversity in all of the lakes. An invasive, Eurasian Watermilfoil (Myriophyllum spicatum) was found in Long Pond and Mill Pond and is of concern. Additional monitoring is needed to confirm the locations and abundance of Eurasian Watermilfoil in these two lakes. Based on this additional information, early action control measures will be recommended. (Husson, Lyons and Terbush 2011)

The classification of Shaver Pond as oligo-mesotrophic is based on indicators commonly used for describing the water quality and the trophic status of a lake. Shaver Pond is also classified as an Oligotrophic-Dimictic Lake by the Natural Heritage Program for the purpose of describing its ecological community. These two classifications are not incompatible and, although similar sounding, are simply different names to describe the lake under different systems.

Information on the individual lakes is summarized in Table 3.

Streams

There are several un-named streams in the park, all are tributaries of the Quacken Kill and are classified “A” by DEC. A tributary to the Poestenkill, the Quacken Kill below the park is classified “A” with the “TS” standard (A(TS)). The “A” classification is assigned to waters that can be used as a source of drinking water. The “TS” standard indicates that the waters may support trout spawning.

Groundwater

The glacial till which overlies the park is a source of groundwater. This layer varies in thickness depending on the depth to the bedrock.

Table 3 Basic Lake Characteristics at Grafton Lakes State Park

	Long Pond	Shaver Pond	Second Pond	White Lily Pond	Mill Pond	Martin Dunham Reservoir
Surface Area (acres)	114	44	27	25	17	73
Watershed (acres)	556	342	222	274	158	6,370
Depth (ft)	33	56	25	17	25	42
Lake Type	Man-made Earth and rip rap dam (1918)	Natural	Man-made Earth and concrete dam (1910)	Natural	Man-made Earth and concrete dam (1918)	Man-made Earth and concrete dam (1913)
Inlets	Tr-Quacken Kill (1)	-	Tr-Quacken Kill (1 from Long Pond)	-	Tr-Quacken Kill (1 from Second Pond)	Quacken Kill (1)
Outlet	Tr-Quacken Kill (1) (drains into Second, Mill, and Martin Dunham)	Shaver Stream, Tr-Quacken Kill (1) (drains into Martin Dunham)	Tr-Quacken Kill (1) (drains into Mill and Martin Dunham)	Quacken Kill (1) (drains into Martin Dunham)	Tr-Quacken Kill (1) (drains into Martin Dunham)	Quacken Kill (1)
Trophic Status	Oligo-meso trophic	Oligo-meso trophic	Meso trophic	Eutrophic	Meso trophic	Meso trophic

Source: Husson, Lyons and Terbush, 2011.

Wetlands

There are several wetlands regulated by DEC in the Park or partially in the Park. These wetlands, with their acreage and classification, are listed in Table 4. Numerous National Wetlands Inventory classified wetlands are located throughout the park. (Figure 11)

Table 4 New York State Regulated Wetlands at Grafton Lakes State Park

Wetland ID	Class	Size (acres)
G-19	II	18.9
G-24	I	36.8 (adjacent to park)
G-28	I	39.1 (partially in the park)
G-27	I	22.2 (part of the checkzone[1] is in the park)
G-33	III	31.8 (part of the checkzone is in the park)

Source: DEC Website (NYSDEC, 2010a, NYSDEC, 2010b)

Air

DEC maintains an air monitoring apparatus in the park at the Shaver Pond Nature Center which records air quality and acid rain factors so air quality at the park is locally measured.

Rensselaer County is within the Capital Region nonattainment area for ozone. Local emissions in the Albany area are the primary driver for the ozone exceedances. Since winds are predominantly from the S to SW on the warm days that are conducive to ozone formation, the highest ozone readings are often seen to the north and east of the core of the Albany metro area, i.e. at Grafton Lakes and Stillwater. Exceedances are far less common at the Schenectady monitoring station, which is normally upstream of most of the Albany metro area during high ozone events. This shows the strong influence of local emissions on ozone levels. Emissions from the New York City and Connecticut areas often contribute as well.

Rensselaer County is not within a nonattainment area for particulates. (NYSDEC, 2010c)

Climate

Grafton Lakes State Park enjoys a climate that is conducive to year-round recreation of many types. Summers are warm enough for enjoyment of the swimming beaches, picnic areas, and hiking trails and the winter snowfall is conducive for all forms of winter activities.

The average temperature at the park is typical of the Upper Hudson River valley and foothills of the Taconic Mountains. Average yearly temperatures are usually around 40 degrees (F) with January averages around 16 to 20 degrees. Typically, in the upper Hudson Valley, below-zero temperatures are observed on about 15 days in most winters and on more than 25 days in notably cold seasons.

Precipitation in the form of rain averages approximately 3 inches per month and snow averages a minimum of 40 to 50 inches per year. Snow can cover the ground from December to March. More severe winters have been noted with snowfall to 70 inches and snowstorms have been

[1] A “Check Zone” is an area surrounding a wetland that may also contain wetlands and may need more precise delineation if a project is proposed within that area.

noted from October to May although the snow cover typically does not last at these times. (Cornell, 2010)

Natural Resources

Introduction

The Rensselaer Plateau, which Grafton Lakes State Park is a part of, is a regionally unique, largely forested area of over 100,000 acres. It is one of the largest and most ecologically intact native habitats in New York State. The plateau has been recognized in several ways for this. The Audubon Society has recognized it as an Important Bird Area (Audubon, 2010), New York State's Open Space Plan includes the plateau as a priority project for acquisition (NYSDEC, 2009a) and in December of 2010 the US Department of Agriculture Forest Service approved designation of the plateau as a forest legacy area. (NYSDEC, 2010)

Due to high elevation (1000-1800 feet), a cooler climate and poorly drained acidic soils, the habitats of the plateau and the park are more similar to the Adirondack Mountains in their biodiversity than the nearby Capital Region. (Rensselaer Plateau Alliance, 2010)

Extended (though not necessarily comprehensive) lists of Flora, Fauna and Endangered Species can be found in Appendix D of this document.

Flora

Upland forests dominate the park and include roughly equal portions of spruce-northern hardwood forest, hemlock-northern hardwood, and beech-maple mesic forest. Spruce-fir swamps and beaver impounded wetlands and meadows occupy area lowlands. Many of the forests and wetlands in the park are relatively young and still show signs of past land use, including brushy understories, open areas denoting old camp sites, and exotic species that likely originated in the gardens of the early homesteads. Some areas of the park are kept open through repeated or periodic mowing, providing habitat for grasses and meadow species. Beaver have been active in and around Grafton since the 1930's and are responsible for many of the open wetlands and flooded forests, especially in the south half of the park. (Evans et al, 2003)

Rare Plants

There are no known populations of state listed rare plants found within the park boundary at this time. (Evans et. al. 2003)

Invasive Plants

No large stands of terrestrial invasive species were known in the park prior to 2011. Japanese barberry (*Berberis japonica*), bush honeysuckle (*Lonicera sp.*), garlic mustard (*Alliaria petiolata*) and multiflora rose (*Rosa multiflora*) have all been found in the park at various locations (O'Brien, 2011 and O'Brien, 2011a). A 1998 botanical survey tallied the percentage of non-native species in the park to be 26.7% of total flora species (Weatherbee and Deitz, 1998).

One of the more common aquatic invasives in the park at this time is common reed (*Phragmites australis*), inserting itself in some wetlands and competing with common cattail (*Typha latifolia*). In addition, Eurasian watermilfoil (*Myriophyllum spicatum*) is found in Long Pond and Mill Pond.

Fauna

The predominant terrestrial natural communities in the park (beech-maple mesic forest, spruce-northern hardwoods forest, and hemlock-northern hardwood forest) foster habitats for mammal species similar to those in the Adirondacks. Many common species such as white-tailed deer, groundhog, beaver, fox and coyote, black bear, mink, fisher, river otter, porcupine and the occasional moose may be found in the Park and the surrounding Rensselaer Plateau's forests. Raccoon populations, once a fairly common species, were decimated approximately ten years ago by a rabies epidemic. Raccoons are now beginning to return to the park in small numbers.

The park's lakes and wetlands provide habitat for a range of animal species. Managed fish populations support an active angling community throughout the year. Native fish species found in the lakes include small mouth and large mouth bass, pickerel, yellow perch, brown bullhead, sunfish and pumpkinseeds. Common amphibians include wood frog, green frog, spring peeper, pickerel frog as well as red spotted newts and red-backed salamanders.

The Plateau is considered an "Important Bird Area" by the National Audubon Society (Audubon, 2010). Grafton Lakes State Park hosts nesting activity of a variety of birds. Goshawk, sharp-shinned hawk, broad-winged hawks, red-shouldered hawk, wood duck, and eastern bluebird have been found in recent years (Evans et al, 2003 and McGowan and Corwin, 2008). Great blue heron, Canada goose, mallards, ruffed grouse and wild turkey are also found in the park. The Hudson Mohawk Bird Club's (HMBC) bird checklist records 193 bird species, including over 20 warblers, migrating Bicknell's Thrush, and Swainson's Thrush (HMBC, 1997). (See Appendix D for a more complete faunal list.)

Rare, Threatened, Endangered and Special Concern Species

Grafton Lakes State Park has had known nesting sites of three State Special Concern woodland raptors (sharp-shinned hawk, red-shouldered hawk and northern goshawk) (Evans et al, 2003). These sites are monitored in the spring for signs of active nesting activity. Additionally, the presence of migrating Bicknell's thrush, another State listed Special Concern species, was documented by the Hudson Mohawk Bird Club (HMBC, 1997). (Appendix D contains information on some species that are on the state list of Species of Special Concern.) A number of county rare and state watch-list plants have been documented in the park (David Hunt, personal communication) and these should be considered when developing specific conservation plans or projects.

Invasive Fauna

No surveys have been done to evaluate the presence or absence of terrestrial or aquatic invasive fauna species.

Ecological Communities

Ecological community types in this plan are defined by the New York Natural Heritage Program (NHP). The communities at the park were analyzed in 2003 by NHP and the White Lily Pond area land acquired since that time was surveyed in 2010. (Figure 12) Additional surveys and/or documentation of state significant communities are warranted.

The land in the park has a long history of recorded human use dating back to the late 18th century. Settled soon after the Revolutionary War, the land was extensively timbered and farmed through the 1800's and was essentially treeless by the 1890's. Thus, forests in Grafton Lakes State Park are second growth. Some areas have only begun the process of returning to a natural state after the opening of the park in 1971.

The three dominant community types (Figure 12) are spruce-northern hardwood, hemlock-northern hardwood, and beech-maple mesic forest. Common species found in these forests include red spruce (*Picea rubens*) and eastern hemlock (*Tsuga canadensis*) as well as northern hardwood species including sugar maple (*Acer saccharum*), American beech (*Fagus grandifolia*), yellow birch (*Betula alleghaniensis*) and red maple (*Acer rubrum*). In addition to the dominant natural communities, the park contains areas of successional northern hardwoods, old fields and shrub lands (including formerly cultivated blueberry plantings), red pine plantations, small wetlands, as well as streams, and lakes (Evans et al, 2003).

Four of the communities found in the park are identified by NHP as statewide significant ecological communities (Figure 13). They are the beech maple mesic forest, the hemlock-northern hardwood forest, and spruce-northern hardwood forest, which are noted for their large size and high quality, and Shaver Pond, which is an oligotrophic dimictic lake noted for its rarity (Evans, et al, 2003).

Cultural Resources

Historic

Cemeteries

There are four family cemeteries within the park. These four burial grounds vary in date and condition of the landscaping and monuments. They are located at various points in the park. (Figure 14)

The cemeteries are known locally as the Hicks, Frances West, Thomas West and Snyder (#2) cemeteries. They were associated with homesteads established during the late 18th and early 19th centuries. After the City of Troy acquired the lakes as part of its water supply, many of the homes, fishing and hunting camps that had been established were abandoned. As a result, these four burial grounds are among the few remaining features of early post-colonial occupation. (Flagg, 2002)

One of these cemeteries retains rights of access and use by the previous owners of the land. These rights are described in Chapter 2 – Legal Constraints, Designations and Other Programs – Deed Restrictions. Rights on the other cemeteries or are not mentioned in the deeds.

Dickinson Hill Fire Tower

In 2010 OPRHP acquired the Dickinson Hill Fire Tower from the New York State Police. The tower is located to the northeast of the main body of the park and is separated from the park by private land. The tower is eligible for listing on the State and National Registers of Historic Places (Shaver, 2010.) Built in 1924, the tower was part of the network of fire protection observation posts until the 1970's. The City of Troy contributed funds for the original construction in order to protect the watershed that supplied the city's water supply. The tower also saw duty as part of the Aircraft Warning Service during World War II. For 18 years beginning in 1943, the tower was operated by New York State's first woman fire observer, Helen Ellett, a Grafton resident. (Leahy Institute, 2010)

Pre-historic

There are no known pre-historic sites in the park.

Archaeological

There are two areas of archaeological sensitivity associated with the park. They are both located in the southern portion (south of NYS Route 2). One of these areas is adjacent to the park, and the second is on park property.

There are sites of former homesteads in the park.

Scenic Resources

The park is set amidst rolling hills and moderate slopes and valleys that are typical of the Rensselaer Plateau. These landforms produce scenic qualities that are of high value. Expansive lake views and views from hilltops (often blocked by existing trees) enhance the scenic desirability of the park.(Figure 14)

Vistas

The major vista in the park is that from the Dickinson Hill Fire Tower. The tower's cab, 60 feet above the ground atop Dickinson Hill, commands a sweeping three hundred sixty degree view of the surrounding lands. The view encompasses the Tomhannock Reservoir towards the Adirondack Mountains, the impressive folds of Petersburg Pass and Berlin Mountain rising to the east, down the long forested spine of Grafton Plateau to the south, and across the Hudson Valley to the Helderbergs and the Catskill Mountain peaks to the southwest. The tower has been placed on the National Register partly due to the historic views available.

The MOU for acquisition of the tower with the New York State Police specifically states

> *"…the Fire Tower also offers views of the surrounding area that are unavailable from other viewpoints close to Grafton Lakes State Park and would constitute an excellent recreational and historic interpretation opportunity for the citizens of the State of New York…"* (OPRHP, 2010a)

Other vistas at the park include views at either end of Long Pond and the expansive views from the shore of Martin Dunham Reservoir. These views take in surrounding unbroken hilltop profiles that express the nature of the rolling topography in this area.

Recreational Resources/Activities

Recreational resources are summarized on Figure 15.

Swimming

Beaches

Grafton Lakes State Park offers a large, sandy beach and adjacent lawn areas at the southern end of Long Pond. This beach provides patrons with swimming and sunbathing opportunities. The large swimming area is very accommodating and can become quite warm throughout the summer. The sandy beach area creates much enjoyment for visitors who at times use the sand to create works of art and dig for treasure.

Boating

Boating is allowed on all six lakes in the park. Only electric trolling motors and human-powered craft are permissible.

Boat rentals are available from Memorial Day to Labor Day. Row boats, paddle boats, canoes and kayaks are available.

Launching ramps/sites

Long Pond, Mill Pond, Second Pond, and Dunham Reservoir all have drive-in boat launch sites. Shaver Pond and White Lily Pond offer walk-in boat launch sites.

Day use areas

Picnic Areas

There are five picnic areas located around the beach and throughout the park. The north area and parts of the south area are overgrown and not currently used. Each operating picnic area provides picnic tables and charcoal grills. Grills and tables are also provided at the Second Pond and Mill Pond boat launch sites and at Deerfield and Rabbit Run.

Playgrounds

The Park has two playgrounds. One is located on the northern side of the beach parking lot, and the other is near the Deerfield pavilion. Each playground has equipment appropriate for children ages 2 to 5 & 5 to 12, including swing sets, slides, twirlers, and climbing walls.

Pavilions and Tents

Seven pavilion sites are available for rent. Three of the sites have wood pavilions and four have large format canopy tents. The capacity of the pavilions ranges from 30 to 150 people. The tents range from 35-40 people in the smaller tents to 75-80 in the largest.

Five of the pavilions have other recreational facilities associated with them. Deerfield has a baseball field, ½ basketball court, volleyball court, a horseshoe pit, and grassy areas for unstructured activities such as Frisbee or soccer. Table 5 lists the amenities for each site.

Table 5 Pavilion and Tent Rental Amenities

	Large 125-150	Mid Size 75-80	Small 30-40	Electric	Volley Ball	Basketball	Horseshoe Pits	Playground Close by	Softball Field
Pavilions									
Amphitheater			x	x			x		
Rabbit Run	x			x	x		x		
Deerfield	x			x	x	x	x	x	x
Tents									
Beach Tent		x		x					
North Area Tent		x		x			x	x	
South Tent			x						
Boat House Tent			x	x					

Court and Field Games

The Deerfield Pavilion area has a ½ court basketball court, volleyball court and a softball field. These are utilized only by rental groups or day-use patrons and are not meant for use by

organized leagues. Volleyball courts are also located at the Rabbit Run Pavilion rental area and the Beach Tent area.

Hunting and Fishing

Hunting is allowed in designated areas. Bow, rifle, and muzzleloader are permitted in season, Trapping is prohibited. All hunters are required to obtain a free permit at the park office before hunting. The designated area around White Lily Pond is restricted to bow hunting only.

Ice fishing is allowed on any of the six lakes located in the park when ice conditions reach 4" in thickness. The lakes are monitored frequently to maintain safety. Ice depth is posted at the park office. Unsafe ice conditions are posted with signage at the lakes in early winter and spring. Motorized vehicles are not allowed on the lakes. Hand-powered augers are allowed. The park hosts a popular annual ice fishing tournament that offers prizes for the longest fish.

The park also offers after-hours fishing by permit only in designated areas from April 15th – June 15th. This permits anglers to fish between sunset and 11 p.m. on Long Pond and Mill Pond via Long Pond Road along with Dunham Reservoir. Shaver Pond, White Lily, and the Main Park Areas are prohibited. After-hours fishing must be performed from shore only; the use of boats is prohibited during these hours. Permits are available at the park office.

Geocaching

Geocaching is a permitted use in the New York State park system. This means that users must first obtain a permit before placing a geocache and must comply with certain rules and regulations regarding geocaching. Permit applications are submitted to the park manager and are available on the OPRHP public website http://www.nysparks.com/inside-our-agency/public-documents.aspx. There are currently 22 permitted geocaches located in Grafton Lakes State Park. These are placed by local geocachers and listed on the website www.geocaching.com. Using coordinates found on this website, geocachers utilize a GPS unit to find these hidden caches in the park.

Orienteering

Orienteering is a permitted use in the New York State park system and requires a permit from the park. Orienteering is a popular sport at the park. Orienteering uses specialized maps combined with a compass to find off trail "controls" in the woods. The park works with the local Empire Orienteering Club to put on orienteering meets and has several courses of varying difficulty that groups can be led through to improve their map and compass skills. There is also a course with intermediate and advanced loops that includes 10 control points.

Winter Activities

Ice Skating

Ice skating is allowed during regular park hours when ice conditions allow. Two skating rinks located on Long Pond are groomed. One is a regular skating rink and one designated for hockey. Parking is available in the main parking lot.

Snowmobiling

There are 12 miles of groomed and well marked snowmobiling trails in the park. These trails are connected to the larger, regional snowmobile trail network. A map is available which was created by the Grafton Trail Blazers, a local snowmobile club. Members of this club created and

now maintain the popular trails that connect Grafton Lakes State Park to Cherry Plain State Park located in Berlin, NY and trail connections through Pittstown State Forest. More information about the snowmobile trails is available in Appendix B – Trails Plan.

Cross-Country Skiing

The park has 12 miles of cross-country skiing trails, which include novice and intermediate skill levels and wind through a variety of hardwood and softwood forests.

Snowshoeing

When snow conditions allow, the park rents snowshoes for patrons of all ages including children's sizes. Snowshoeing trails are shared with cross country ski trails and accommodate easy to intermediate abilities.

Trails

There are over 21 miles of trails throughout the park. Trails are designated for hiking, mountain biking, horseback riding, cross-country skiing, snowshoeing, and snowmobiling. Trails in the park are discussed more extensively in Appendix B – Grafton Lakes Trails Plan.

Environmental Education and Interpretation

Grafton Lakes State Park offers interpretative and recreation programming year round. The interpretative programs endeavor to create a sense of wonder about the natural world. Programming serves day use patrons, camps, beach visitors, community residents, schools and other community organizations. In addition, a diversity of outdoor recreational programs encourages participants to challenge themselves physically.

Summer. The Beach Nature Center serves an average of over 1000 people during July and August. The Park Interpreter also organizes public programs such as sand sculpture contests, native wildlife programs and fishing clinics. Volunteers are brought in to help staff the Beach Nature Center as well as to teach several of the public programs.

Autumn. Programs continue to bring patrons to the park in the fall season after the beach closes. Orienteering, an annual park lake shoreline cleanup, a Hudson River Ramble outdoor event as well as the Trick or Treat Nature Trail are some of the family-friendly activities offered. The "Art in the Park" program brings all levels of artists into the park on Sundays in late September and October to artistically capture the beautiful fall foliage. The park hosts boating events in September, such as kayak demos with a local paddling business and the Barge Chaser Canoe and Kayak race.

Winter. Snowshoe, animal tracking and winter birding programs are offered regularly throughout the winter.

Spring. Spring is busy with schools visiting. Pre-Kindergarten through third graders are the primary ages that come to the park for the popular amphibian life cycle programs. The park raises trout from October through April, when they are stocked into Shaver Pond with the assistance of local school classes participating in Trout Unlimited's Trout in the Classroom program. Regional scout troops perform service work on the parks' trails and shorelines in the spring. The National Trails Day event (held on the first Saturday in June) typically has nearly 100 trail users give back to Grafton's extensive trail system with a morning of trail work followed by a barbecue and prize raffle donated by local businesses.

Events. Two large recreational events are annual traditions as well. The nationally known Xterra Triathlon brings triathletes from all over the country in mid-July. The 5k Run for the Roses benefits the Grafton Community Library while filling the park with hundreds of community residents the second Sunday in August, completing its 25th run in 2010. The largest park event of the year, the Winter Festival, has been held annually for a quarter century. An ice fishing contest, polar plunge, kids' contests, information tables and activities from regional outdoor organizations are offered.

Emergency Plans and Services

Fire

Grafton Volunteer Fire Department
Route 2, Grafton, NY
518-279-1388
Jim Goyer, Chief

The park's emergency response plan is located in the Park Office

Police

State Park Police

The State Park Police operate a police station in Grafton Lakes State Park. The main function of the State Park Police is to provide safe and enjoyable recreation, and interpretive opportunities for all New York State residents and visitors.

State and Local Police

Although the Park Police are the primary agency handling police related incidents in Grafton Lakes State Park, there are times when other police agencies are called upon to assist the Park Police with certain incidents. Due to limited staffing, there are times when Sheriff Deputies or State Police have the quickest response time to Grafton and will respond to a complaint or a disturbance before the Park Police can arrive.

Rensselaer County Sheriff's Department
4000 Main Street
Troy, NY 12180
518-270-5448

Ambulance/Rescue

Grafton Ambulance Squad
Grafton, NY
518-279-4923
Sharon Lecce, Captain

Samaritan Hospital
Troy, NY

Emergency Response

An *All Hazards Emergency Operations Plan* is on file at the park.

Evacuation Plans

Two Emergency Action Plans (EAP) are in place for the dams at Grafton Lakes: One for the Martin Dunham Reservoir Dam, and one for the Long Pond – Second Pond – Mill Pond Dams. Each of these dams is categorized as "High Hazard" by DEC due to the potential downstream impacts should they fail.

Infrastructure

Water Supplies

The Park contains 5 independent water systems:

- **Day Use Area:** Three groundwater wells, disinfected with sodium hypochlorite, storage in a 55,000 gallon steel tank. Serves beach, picnic areas, and contact station.
- **Maintenance Area:** One groundwater well, disinfected with sodium hypochlorite, minimal storage in pressure tank. Serves Maintenance Shop, Park Office, and Manager's Residence.
- **Park Police Substation:** One groundwater well, disinfected with sodium hypochlorite, minimal storage in pressure tank. Serves Park Police Substation.
- **Shaver Pond Nature Center:** One groundwater well, no disinfection, minimal storage in pressure tank. Serves Shaver Pond Nature Center. Sinks are posted with "Do not drink this water" signs.
- **Long Pond Road House:** One groundwater well, disinfected with sodium hypochlorite, minimal storage in pressure tank. Serves Long Pond Road house, leased to local snowmobile club.

Waste Water and Sewerage Systems

- **Day Use Area:** 30,000 gallons per day package plant with sand filters and sodium hypochlorite disinfection. Indirect discharge into Shaver Pond.
- **Maintenance Area:** Individual septic tanks at Park Office, Maintenance Shop, and Managers Residence, treated by a common sand filter and chlorinated. Discharge into Quacken Kill tributary.
- **Individual Septic Systems:** Park Police Substation, Contact Station, Long Pond Road House, Shaver Pond Nature Center.
- **Composting Toilets:** Long Pond Boat Launch, North Picnic Area (winter only)

Utilities

Telephone services to the park are provided by Verizon and Electricity is provided by National Grid. Petroleum products are provided by area fuel services. See Appendix E for details.

Roads and Parking Areas

The park owns and maintains approximately 1.5 miles of road within the park. Other roads within the park boundaries are maintained and owned by the Town of Grafton.

There are more than 750 formal parking spaces in designated parking areas through out the park. A number of smaller informal parking areas throughout the park are used as trail head parking and seasonal parking areas. See Appendix E for details.

Dams

Long Pond, Second Pond, Mill Pond and Dunham Reservoir each have a dam that is registered with and regulated by DEC. They have all been assigned a hazard class of C-High and inspections are required. See Appendix E for details.

Accessibility (Americans with Disabilities Act (ADA))

All buildings, park operations and park facilities comply with the ADA.

Operations and Maintenance Overview

Park Season and Hours

The park is open year round daily from 8:00 a.m. to sunset. The White Lily Pond area section opens at 8:00 a.m. and closes 1/2 an hour before sunset.

Beach

The beach is open May 28 to Labor Day, Friday through Tuesday from 10:00 a.m. to 6:00 p.m..

Special Events/Permits

The park hosts annual events co-sponsored with the various interest groups.

Fall: Shoreline Cleanup cosponsored with American Littoral Society

Winter: A very popular Winter Festival cosponsored with Grafton Library.

Buildings

A complete listing and description of buildings at the park is available in Appendix E.

Solid Waste Management and Recycling Programs

Solid Waste is collected by contract with Waste Management, Albany, NY. The waste is collected monthly in the off season and weekly during the season.

Sustainability Programs

Recycling

Glass and plastic items are brought directly to the town. Paper products, including all paper and cardboard, are included in the Green Fiber program.

Scrap Metal is delivered to Green Island Scrap Yard. The scrap yard pays the park for these materials by weight.

Batteries are delivered to the regional headquarters in Saratoga Spa State Park to be recycled.

Other Operations and Maintenance Elements

Wildlife

The park controls nuisance geese populations through an egg oiling program. Other wildlife issues are controlled through various measures according to the agency's Wildlife Policy.

Tobacco-free Playgrounds and Swimming Areas

The beach at the end of Long Pond and all playgrounds throughout the park are designated as tobacco-free areas.

Thin Ice Guidelines

The park monitors ice thickness and posts appropriate access points with "Thin Ice" signs until uniform ice thickness reaches 4 inches. No vehicles are permitted on frozen water bodies except snowmobiles on Martin Dunham Reservoir.

Winter Entrance and Snowplowing

In the winter Grafton Lakes State Park Way is closed and signs are posted on Route 2 directing people to enter the park through the winter entrance on Long Pond Road. Until Winterfest (end of January) Long Pond Road is plowed all the way to the north parking area. After Winterfest it is only plowed to the Stone House. This plowing is done by the Town of Grafton with help from park staff. The park staff maintains the main park road running from Long Pond Road to the main parking lot by the beach area at the southern end of Long Pond.

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Chapter 4 - Park 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

Grafton Lakes State Park will serve the residents of, and visitors to, New York State by providing year round opportunities for recreation and for appreciation of its natural, cultural and physical resources while operating the park in such a manner as to preserve and protect those opportunities and resources. The park will serve as a statewide model for education and interpretive programming of the natural environment.

Overall Park Goal

In order to accomplish this vision OPRHP sets forth the following objectives:

- Achieve a balance between providing diverse recreational opportunities and the protection of natural and cultural resources of Grafton Lakes State Park
- Make available compatible public environmental and historic education and interpretive programs
- Provide the facilities and staff necessary to establish the park as a statewide education and interpretation model.
- Promote underutilized areas, off season attendance and less attended activities in the park using education staff and friends groups.
- Maintain the park to provide a safe and enjoyable recreation experience

Natural Resources

Goal

To identify, preserve, protect and interpret the natural resources in Grafton Lakes State Park.

Objectives

- Preserve and/or improve the water quality in the lakes and streams of the park
    - Monitor water quality in the lakes and streams on a regular basis
    - Use best management practices for stormwater management
- Identify environmentally sensitive areas within the park and develop management strategies to preserve their unique qualities
    - Inventory the park flora and fauna for rare, threatened and endangered species
    - Accurately map wetland resources within the park

  - Preserve contiguous forest resources in the park as part of the Rensselaer Plateau Legacy Forest
- Prevent the introduction and spread of invasive species in the park
  - Develop an early detection and rapid response plan
  - Increase education about the spread of invasive species
- Preserve and improve the biodiversity of the park through appropriate management strategies
  - Develop a strategy for grassland habitat management

Recreation Resources

Goal

To provide a variety of year round recreation opportunities which fulfill the needs of park patrons.

Objectives

- Maintain a healthy fish population in all water bodies in the park
- Maintain hunting and fishing opportunities in the park
  - Provide hunter safety education classes
  - Improve information sources for hunting zones, seasons and park specific regulations
- Maintain status as the pre-eminent beach destination in the Capital District
  - Increase beach operation hours
  - Improve pedestrian connection between beach and picnic areas
- Improve amenities to pavilion and tent rental areas
  - Provide water and electric services
  - Add recreational amenities to pavilions including fire pits, court and field sports, playgrounds, etc.
- Provide enough pavilions to meet user demands
  - Convert tent rental areas to pavilions
- Support winter recreation activities
  - Construct warming hut(s)
  - Expand snowshoe rentals
  - Increase ice skating opportunities
  - Keep Grafton Lakes State Park as a hub in the statewide snowmobile trail system
- Increase equestrian resources
- Improve boating opportunities

- Explore camping opportunities at the park.

Trails (from the Trails Plan)

- Build and maintain all trails to Agency trail standards.
  - Utilize user groups to help with trail maintenance issues such as erosion
- Develop a cohesive looped trail network.
- Accommodate a broad range of user groups.
- Maintain cooperation among user groups and park management.
- Continue to develop and maintain trails to provide access to natural (wilderness) experiences while preserving and protecting the natural resources that we're providing access to.
- Mark all trails and provide accurate maps to the public.
- Provide diversity in trail experiences including a range of trail difficulty levels.
- Create destination locations of cultural, natural, and historic resources.
- Provide interpretive and educational experiences using kiosks, signage, and self-guided tours.
- Use trails as outdoor classrooms

Cultural Resources

Goal

To preserve and interpret the cultural resources and history of Grafton State Park.

Objectives

- Stabilize and maintain cultural and historic resources
- Improve interpretation of local history and cultural resources
  - Utilize local resources such as historians and libraries

Scenic Resources

Goal

To protect the quality of the scenic resources in the park

Objectives

- Minimize external threats to the existing scenic beauty of the park
  - Large scale wind power development
  - Residential development
- Limit new shoreline development to maintain scenic quality of the lakes

Open Space Protection

Goal

To protect, maintain and expand open space opportunities adjacent to and connected with Grafton Lakes State Park

Objectives

- Explore opportunities for recreational connections to Pittstown State Forest, Dyken Pond, Cherry Plain State Park, and the Taconic Crest Trail.
- Follow the guidelines in the New York State Open Space Plan (NYSDEC, 2009a) when considering parkland buffering, development and connectivity.
    - Protect open space using tools such as conservation easements
    - Acquisition from willing sellers

Access/Circulation and Parking

Goal

To make access to the park safe and convenient for patrons using all modes of transportation.

Objectives

- Increase park access via public transportation
- Improve the safety of access from Route 2
    - Work with NYS DOT to raise the priority of improvements
- Improve winter entrance/connection to the Grafton town center
- Maintain and improve parking lots and roads in the park
- Improve bicycle and pedestrian circulation in the park
- Provide better trailer parking for equestrians and snowmobilers
- Consider acquiring town roads inside the park boundary

Education and Interpretation

Goal

Make Grafton Lakes State Park a leader in environmental education for the Rensselaer Plateau

Objectives

- Take advantage of the park's natural features as an outdoor classroom
- Raise awareness of invasive species issues
- Develop a park nature/education center close to high use activity center
- Establish the park as one of the premier environmental education destination for school groups and other organizations in the Capital District area

- Improve and maintain relationships and communication with other regional environmental education centers
- Increase accessibility to education and interpretation programs

Operation and Maintenance

Goal

To operate and maintain all facilities in the park in a cost effective way that is sustainable, and exhibits a high degree of professionalism.

Objectives

- Develop a comprehensive preventative maintenance program
- Institute equipment sharing agreements with local and state agencies in the area
- Improve communication for reaffirmation of park regulations
    - Reduce need for enforcement
    - Reduce alcohol abuse in the park
- Explore revenue generating opportunities that benefit the park
- Update the survey and boundary marking of the park
- Improve marketing for winter park activities
- Upgrade outdated infrastructure, facilities and equipment

Sustainability

Goal

Operate and maintain the park and its support facilities in as sustainable a manner as possible

Objectives

- Reduce the carbon footprint of park vehicle fleet
- Manage stormwater through best management practices when rehabilitating facilities and parking areas including the use of appropriate green infrastructure.
    - Use porous pavement where possible
- Improve and expand park recycling and composting program
- Reduce energy usage in park buildings
    - Explore use of alternative energy sources
- Improve and increase public awareness of sustainability
- Reduce maintenance demands, fossil fuel use and carbon dioxide emissions through sustainable landscape management practices.

Facility Development and Capital Investment

Goal

To re-use or develop new facilities that can house the broad range of activities and operational requirements of the park

Objectives

- Explore alternative funding sources for programs, projects and infrastructure improvements in the park
- Improve entry experience
    - Park visitor center near entrance
- Develop a nature / environmental education center

Communication and Partnerships

Goal

To establish links between the park and surrounding community and to promote partnerships between the park and users

Objectives

- Increase communication between park staff and community leaders (elected and voluntary)
- Utilize local resources for historic and cultural information
- Build partnerships with interest groups for volunteer projects
- Improve communication and partnerships with regional environmental education centers
- Strengthen Friends Group
- Improve community involvement in the park
- Improve marketing and promotion of the park

Inventory, Monitoring and Research

Goal

To promote the gathering of information about the resources in the park for the purposes of proper management and scientific research

Objectives

- Continue monitoring lake water quality
- Develop a wildlife population monitoring program
- Identify and inventory invasive species populations

- Continue monitoring programs as required by DEC and DOH regulations (dam safety, petroleum bulk storage, bathing beaches, drinking water supplies and SPDES.)
- Monitor visitor satisfaction and demographics to meet patron needs
- Inventory and assess park facilities for ADA compliance
- Promote use of the park for scientific research
- Continue partnership with DEC for air monitoring station at Shaver Pond Nature Center.

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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 Grafton Lakes State Park. The detailed report is contained in Appendix A.

The planning team used information contained in Chapter 2 – Park Background, Chapter 3 – Environmental Setting and Chapter 4 – Vision and Goals during the analysis of alternatives. 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 Alternative.

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 park would continue to operate as it is 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. The master plan alternative is preferred over the status quo because it provides recreation development opportunities for the park that will increase visitation and patron satisfaction as well as increased awareness and new strategies for natural resource protection. Thus, the Preferred Master Plan Alternative represents the master plan itself which is fully described in Chapter 6 – The Master Plan.

Major Master Plan Elements and Basis for Selection

Before the start of this master plan process, the park had been undergoing continued improvements such as trail reconfigurations, park office renovations and the addition of maintenance buildings and a new police headquarters.

This ongoing improvement and maintenance is important and is not overlooked as a significant factor in the analysis of master plan alternatives. Many of the recommended directions chosen in analyzed elements are consistent with the ongoing projects. In addition, projects designed to improve on current functions and provide for new opportunities are included. These include changes to trail configurations and designations, natural resource protection strategies, recreation resource development and infrastructure not currently in the park.

A significant change to the park recommended in this master plan is the addition of camping facilities. This addition will afford traditional camping in an area where no other commercial campgrounds that offer traditional camping opportunities are close by. The addition of camping will increase visitation to the park and patron satisfaction.

Another important addition to the park is the new nature center. Currently there is no central resource for the Environmental Education & Interpretation program at the park. The new nature center will house offices, exhibit spaces, classrooms, and an outdoor amphitheater. It may also include the DEC air quality monitoring station. The nature center will connect to the park's trail system and act as a meeting place for groups going on educational and interpretive walks in the park.

Natural resource protection is an important part of the plan. The creation of three resource protection areas is recommended as well as water quality monitoring, improved stormwater management at the beach and invasive species protection protocols.

The plan also recommends building a new park office at the main park entrance. This office will provide camper registration, park information, and administrative offices for better contact with patrons. The existing contact point will remain for information distribution and collection of vehicle use fees from day users. The existing intersection with Route 2 will be examined and talks regarding re-design of that intersection will be initiated with DOT and the town to improve safety.

The maintenance area will also be improved and expanded to provide adequate storage, workshop, and staff space. This is important in light of increased staffing and maintenance duties expected with the addition of camping and the new nature center.

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 recreation and natural resources within the park.

Chapter 6 - The Master Plan

This chapter provides a description of what will be done in the park in terms of recreation resource development, natural resource protection, management and operations. The actions described here, the preferred alternatives, and the rationale for the choices that were made are based on the analysis that is described fully in Appendix A.

Natural Resource Protection

Park Preservation Area

A Park Preservation Area (PPA) will be created for the parkland south of NYS Route 2, including Martin-Dunham Reservoir (Figure 16). The existing C9 snowmobile trail will remain and its corridor will be excluded from the PPA. The S99F snowmobile trail will be eliminated. A new non-motorized multi use trail will be created over Dunham Hill. (Details of trail changes can be found in Appendix B – The Final Trails Plan.)

Bird Conservation Area

The entire park will be a Bird Conservation Area (BCA). The entire park was chosen because most of the park fits with the BCA criteria. Separating out small parts of the park would have created an unmanageable patchwork. The BCA provides recognition on a statewide level which adds to the overall significance of the park relative to other parks and open spaces within the state. The BCA will encourage the public not only to support or visit the park because of the bird species that may exist there but also to be more sensitive to their habitats during their stay. The BCA will not prohibit existing or future recreation uses or operational needs. Instead, the BCA will inform the planning process for future actions in the Park. A management guidelines summary will be prepared for the BCA.

Lake Water Quality

The regular water quality monitoring of the park's lakes will continue. Additional nutrient monitoring will be conducted periodically in Long Pond and Shaver Pond following the construction of new facilities to confirm that there are no impacts and to address impacts if they occur. White Lily Pond will be studied more closely to determine if its eutrophic status is natural or man-made.

Stormwater Runoff

Beach Area

The existing trench drain system will be rehabilitated and upgraded to include a new system of rain gardens that will be designed and installed in the lawn area swales above the beach. The rain gardens will receive water from the trench drains. This system will be designed to handle all runoff from most rain events. Any excess water will be funneled into the existing stormwater system via an overflow connection. Rain gardens will be designed to retain and infiltrate stormwater and provide primary treatment of excessive stormwater flows before release to the lake.

Invasive Species Management

Aquatic Invasives

The current regimen of monitoring of all lakes for invasive species will continue. An Invasive Species Prevention Zone (ISPZ) will be created for the entire park, including the lakes. Patron education concerning the threat of invasive aquatic species will be increased using pamphlets and signage at boat launch sites. Power washing stations will be installed at the park contact station and the Long Pond boat launch. Invasive species disposal bins will be installed at all boat launches.

Terrestrial Invasives

No large stands of terrestrial invasive species were known in the park prior to 2011. An ISPZ will be created for the entire park, including the lakes. The park will be inventoried for existing invasive species and a monitoring program will be implemented to detect new invasions, especially in the Hemlock communities where the Wooly Adelgid may appear. Removal of existing patches of invasive species will occur where feasible. Increased education of invasive species will be given to park staff and patrons, including the use of the iMapInvasives data entry website, an all-inclusive invasive species mapping and data entry clearinghouse operated by The Nature Conservancy.

Wildlife Resources and Nuisance Wildlife

The park will continue to follow the agency policy on wildlife and will continue its relationship with OPRHP partners as a part of these policies, including nuisance wildlife on a case by case basis.

Rare, Threatened and Endangered Species

Guidelines will be established based on NHP reports and DEC recommendations.

Reduced Mowing

The existing reduced mowing protocol at the park will be continued. Other lawn areas will be added to the program as appropriate.

Recreation Facility Development and Programs

Camping

Campsites – Traditional and Carry-In (Primitive)

Camping will be added to the park. The exact configuration and location will be determined in a final design. The new camping area will be located north of the beach area along the road to the water tower (Figure A5). The camping area location was chosen after carefully considering site factors such as topography, soils, road access, ecological communities and proximity to the beach area. The conceptual design was developed to illustrate a possible layout for the campsites. This conceptual design takes into account standard agency spacing requirements for each individual campsite within the loop as well as New York State Department of Health (DOH) requirements for distances to potable water and toilet facilities. The total number of campsites may vary and range higher or lower when a final design is created for implementation. One new shower/comfort station building will be constructed along with the new campground.

Improvements to the Water Tower Trail will provide pedestrian access between the camping area and the beach. A new playground will be considered for inclusion in the camping area.

Cabins

Several new four-season cabins will be constructed in the White Lily Pond area at the site of the former YMCA camp (Figure A6). This site was chosen because it has easy road access, connections to the trails year round, proximity to White Lily Pond, and involved little disturbance of forested areas or significant ecological communities. The number of cabins, exact floor plans and placement will be determined in final design. The cabins are meant to offer year round accommodations close to road and trail access.

A cabin colony will also be constructed across the Water Tower Road from the new campground (Figure A5). These cabins will be seasonal in nature and only operate while the campground is in operation.

Nature Center

A new, year round nature and environmental education center will be built for the park (Figures A1-A3). The agency feels that the existing environmental education and interpretation (EE&I) facilities are not adequate, given the importance and priority given to these programs at the park (see Chapter 3, page43). It was also decided that other centers in the surrounding area, while very high-quality, would not be able to serve park patrons in the same way that an on-site nature center could.

The site that was chosen is near the trailhead of the Woodland Trail. (Site D on Figure A1). This site was chosen above the others because it has easy year round access, is close to existing utilities and connects with the park's trail system. The connection to the trail system is important because many programs will now be able to meet at the new center and easily move outdoors to the park's environments. A new pavilion/tent structure at the beach will act as an "ambassador site" to the new nature center.

The center will include spaces that will serve the public as well as provide a home for the EE&I program at the park. Suggested facilities include exhibit space, classroom, library, and laboratory. A small outdoor amphitheatre (seating for 40-50 people) will also be part of the center. In the winter the center will act as a "warming hut" for those patrons participating in outdoor winter sports.

Beaches

The existing beach will remain as is. If needed, a feasibility study will be undertaken to investigate the possibility of adding a new beach on Long Pond.

Picnicking

Picnic Groves

The north area will be dismantled and allowed to revert to a natural community. The south area will be rehabilitated and a new playground will be added. New picnic tables with grills will be installed at the proposed pavilion at Deerfield.

Picnic Pavilions/Tents

All current canopy tents will be replaced with permanent pavilions. A new pavilion will be installed at Deerfield between the existing pavilion and the road (see Figure A9 location A). A larger pavilion will be installed to replace the current Amphitheatre Pavilion.

Court and Field Games

A new full basketball court will be installed at Rabbit Run. The existing ½ court at Deerfield will be expanded to a full basketball court. A Bocce court will be installed at Deerfield.

Playgrounds

A new playground will be installed as part of the south picnic area rehabilitation. A new playground will be considered as part of the development of the camping area.

Hunting

Hunting will continue to be allowed at the park under the existing regulations. The boundaries of the restricted zone for hunting may be changed to accommodate new recreation facilities in the park.

Fishing and Ice Fishing

Improved fishing access areas will be selected in the park. This will improve public access for a larger segment of the population. Current fishing regulations at the park will remain.

Trails

Implement the Grafton Lakes State Park Trails Plan (Appendix B). Key components of the plan include:

- Maintain the trail system for designated uses including hiking, biking, horseback riding, snowshoeing, cross-country skiing and snowmobiling.
- Provide increased trail opportunities and connections in the park's trail system as well as external connections to trails on nearby public lands.
- Enhance trail opportunities and accessibility in high-use areas.
- Improve trail signage including trailhead and trail intersection signage throughout the park to enhance the visitor experience and increase patron safety.
- Enhance interpretation of natural, cultural and historical resources along trails.

Cultural Resource Protection

Cemeteries

The park will proceed with recommendations made by the State Historic Preservation Office (SHPO) in a 2002 report (Flagg, 2002) and will update information on the cemeteries through additional survey and assessment.

The general recommendations include:

- managing the landscape toward slowly re-establishing an open clearing (except the Hicks cemetery), preserving and protecting the historic character of the burial grounds
- initiating a comprehensive and detailed survey of all four cemeteries

- instituting a cyclical maintenance and inspection program
- re-set toppled, loose and severely leaning gravestones
- research and develop interpretive materials for the cemeteries.

Dickinson Hill Fire Tower

The tower will continue to be restored and, when completed, will be open for public access. The tower will be interpreted with signage for education of patrons. Some changes will be made to the trail system leading to the Fire Tower (see Appendix B – Final Trails Plan). It will also be recommended to provide a parking area for fire tower visitors coming by automobile from the east on Fire Tower Road.

Scenic Resource Protection

The scenic resources in the park will be protected. The lake shorelines and hilltop views will be managed by limiting visibility of new development in the park.

The view from the Dickinson Hill Fire Tower is an important resource of the park. Given its important, it was decided to make every effort to protect this view. Therefore it is recommended that a comprehensive scenic resource management plan be developed for the fire tower view. The plan should include action items for viewshed protection including:

- An assessment of the fire tower viewshed.
- An pro-active stance of protection where proposed projects may diminish the value of the resource
- Identification of priority land acquisitions within the viewshed where willing sellers exist
- Management of trees and vegetation on park land close to the fire tower which may impinge in the view

The park, the region and the agency will maintain a policy of commenting on and protecting the park from development outside the park which may negatively impact the scenic resources.

Infrastructure Development

Shaver Pond Nature Center

The building will be adapted for other park uses. The DEC monitoring station will be moved to the new nature center.

Maintenance Area

The new camping area and the new nature center will require enhanced maintenance facilities for equipment, shop functions and staff. The Maintenance Shop will be expanded to include an additional workshop bay, maintenance supervisor office, staff accommodations and additional staff restrooms.

A new stand-alone woodshed will be constructed west of the maintenance shop and the makeshift shed will be replaced with a permanent addition for equipment and tool storage.

The Old Maintenance Shop will be upgraded to increase storage space

Vehicular Entrance Control/Access and Park Office

The main park entrance will remain where it is. A new “satellite” park office which will provide camper registration, parking for office visitors, park information, public contact, and

administrative offices will be built on the main park road north of the existing contact point. The existing contact point will remain to serve park day users. Talks will be initiated with DOT and the town concerning the safety of the existing intersection with Route 2 and alternatives to the current configuration.

Martin Dunham Reservoir Outlet Trail Crossing

There will be no changes to the reservoir outlet trail crossing at this time. A feasibility study for trail alternatives is recommended. The outlet will be rehabilitated to be in compliance with DEC regulations.

Implementation

Priorities

The Master Plan sets forth OPRHP's vision for capital improvements, operational enhancements and natural resource stewardship projects in Grafton Lakes State Park for the next ten to fifteen years. As stated at the beginning of this chapter, the agency has not developed detailed cost estimates for each of the proposed actions. Cumulatively they will cost tens of millions of dollars to implement. The pace and sequencing of recommended actions will be determined by the availability of funding, which is a function of the size of OPRHP's annual capital budget and the need to balance investments throughout the entire State Park System. The master plan will be reviewed annually to select projects that will be added to the park's budget for implementation and to assess the progress of plan implementation.

The implementation of the Master Plan for Grafton Lakes State Park is divided into three priority phases. The priority groupings described below are conceptual and subject to reorganization based on available funding for specific components in any given group.

Table 6 Implementation Priorities (projects within the priority levels are not in any particular order)

Implementation Priorities	**Description/Development Component**
Immediate	• Park Preservation Area creation • Bird Conservation Area creation • Invasive Species Prevention Zone creation
On Going	• Water quality monitoring of Park's lakes and ponds • Invasive species monitoring • Reduced mowing program • Replace all tents with permanent pavilion shelters • Follow implementation priorities in the trails plan
Priority 1:	• Design and install new nature center • Nutrient monitoring in Long Pond post campground construction. • Install invasive species protection measures (boat wash station, IS disposal bins) and inventory the park for existing invasive species • Rehabilitate south picnic area • Rehabilitate existing facilities • Install new playgrounds in south picnic area and campground • Finish restoration of Dickinson Hill Fire Tower and open to public • Install new rain gardens at beach area

	• Detailed aquatic plant survey • Survey park for rare plants and animals (prior to development of new trails or facilities)
Priority 2:	• Design and install new campground • Design and install new cabins • Build new park office/camper registration at main park entrance • Nutrient monitoring in Shaver Pond post nature center construction • Install new full basketball court at Rabbit Run
Priority 3:	• Replace south picnic area Amphitheatre pavilion with larger pavilion • Install second pavilion at Deerfield • Expand existing ½ court to full basketball court at Deerfield • Install Bocce court at Deerfield • Convert Shaver Pond Nature Center to other park uses • Begin feasibility study for outflow of Martin Dunham Reservoir • If needed conduct feasibility study for additional beach on Long Pond

Sustainability

OPRHP, the region and the park are committed to developing and operating our state parks in a way that is environmentally sustainable and economically prudent. Several aspects of the plan contribute to these principles:

- Adaptive re-use of the Shaver Pond Nature Center
- Reduced mowing program
- Green infrastructure stormwater management practices
- Renewable energy sources used where possible, including hydroelectric when economically feasible
- Removal of vegetation kept to a minimum
- Use of renewable and sustainable materials in construction

Ecosystem-Based Management (EBM)

The master plan is consistent with ecosystem-based management (EBM). EBM is an emerging, integrated approach to managing natural resources and human activities. The EBM approach has six components and is 1) placed based, 2) science based, 3) has measurable objectives, 4) uses adaptive management, 5)recognizes interconnections, and 6) increases stakeholder involvement. Master planning is consistent with the principles of EBM and the agency has formulated this master plan based on the knowledge of the local ecosystem. The public was also involved early in the planning process and the local knowledge and comment helped to inform decisions made in this plan. In addition, the park resources are connected to adjoining ecosystems that are also considered within this plan and will be considered in implementation of objectives in this plan. As proposals pursuant to the master plan are advanced, and developed they will be based on the best available science using current scientific understanding of impacted ecosystems and the advancement of scientific investigation. Measurable objectives for implementation will provide a

basis for gauging the impact of activities on the health of the ecosystem. Further, an ethic of adaptive management will be developed to respond to new knowledge and changing conditions will allow us to consider how adjustments can be made to reflect new information to accomplish goals and local knowledge and expertise will enhance these activities.

Relationship to Other Programs

Grafton Lakes State Park staff will continue to be committed to partnering with groups that are interested in furthering the mission of the park. The park staff is also interested in working with other outside planning groups to further the park's contribution to and participation in the recreation resources of the area.

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

The park will continue to work with state and federal agencies, such as New York State Department of Environmental Conservation (DEC), the Army Corps of Engineers (ACOE), the US Fish and Wildlife Service (USFWS), as well as county and regional governments.

Chapter 7: Environmental Review

Introduction

This chapter 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. Chapter 6 contains a description of the proposed action. The environmental setting is discussed in Chapter 3. Chapter 5 and Appendix A contain 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 Final Master Plan, including a discussion of mitigation measures.

Environmental Impacts of Alternatives

Alternatives were developed (Appendix A) for various recreation and support activities at the park, as well as natural resource issues. These alternatives were based on information about existing conditions, an analysis of recommended directions for various activities and constraints, and considerations identified in the resources analysis. The preferred alternative for the entire park (i.e. the Final Master Plan) consists of the preferred alternative for each identified activity.

Much of the information on the environmental impacts of alternative actions is discussed in Appendix A. This chapter summarizes the findings from the impact analysis which make up the preferred alternative and the Status Quo alternative.

Status Quo

This alternative consists of the current facilities, programs and practices at the park as described in Chapter 3. Under this alternative, current resource protection, operation, and facility management practices would continue. The increasing recreational demand on the park would not be addressed, or impacts mitigated, nor would opportunity for conservation of the resources under recent changes to Environmental Conservation Law or Parks Recreation and Historic Preservation (PRHP) law be addressed.

The Status Quo alternative would not result in any additional adverse environmental impacts. The potential for long-term indirect adverse environmental impacts is likely, however, since there would be no plan to guide use, protection or development of the park. As more park visitors seek to use the park, additional demands will be placed on the natural, cultural and recreational resources. Without the guidance provided by the Master Plan, which directs more intensive use and development toward areas with capacity for such use and away from the more sensitive areas of the park, the potential for adverse impacts on environmental resources increases.

Trail proposals would occur and be addressed on a case-by-case basis without the guidance of an overall trails plan for the entire park. Undesignated trails would continue to proliferate in areas of the park that might not support their use. Issues such as the introduction of invasive species of plants and wildlife into the park would be handled on a case-by-case basis as they arose. Without a plan in place, monitoring that would enable a rapid response would most likely not occur.

Preferred Alternative and the Final Master Plan

The preferred alternative is the compilation of the preferred recreation activity and support facility options identified in Appendix A. This compilation was subject to a final evaluation (or synthesis) to assure that there was consistency among the various alternatives. This final assessment resulted in the Draft Master Plan. Following the public comment period on the Draft Master Plan, additional alternatives were considered for some of the options discussed in Appendix A resulting in the Final Master Plan (Chapter 6). The final plan provides considerable recreational and resource protection benefits. The final plan identifies potential adverse impacts, both short and long term, and ways to, if not eliminate them, minimize them to the fullest extent possible through appropriate mitigation measures. From a long-term perspective, implementation of the park master plan will result in a beneficial environmental impact by insuring that the most sensitive areas of the park will be identified, monitored and provided appropriate stewardship. Environmental impacts of the final master plan are discussed more fully in the rest of this chapter.

Environmental Impacts Associated with Implementation of the Final Master Plan and Proposed Mitigation

Land (Topography, Geology and Soils)

The master plan for Grafton Lakes State Park seeks to provide improvements to existing recreation while providing additional protection of sensitive natural and cultural resources within the park. Planning for new facilities in the park reflects this and the proposed locations of new facilities avoid sensitive resources to the extent practicable. Implementation of the plan, however, will result in some physical change and disturbance to the land, particularly where new buildings, camping, recreation facilities, parking and trails are proposed. Much of the park will continue to remain in a natural, forested state.

The final master plan calls for continued rehabilitation and maintenance of the parks existing day use facilities including the beach and picnic facilities. New buildings and facilities proposed in the plan include: a new nature center and amphitheater in the area between the beach parking lot and the Deerfield Pavilion area; a new camping area to the north of the Long Pond Beach complex, a new 4 season cabin area in the White Lily Pond area, replacement of rental tents with permanent pavilions and construction of a new pavilion in the Deerfield Pavilion Area, new playgrounds in the Rabbit Run picnic area and in the camping area, a new full basketball court in the Rabbit Run Area and increasing the size of the basketball court in the Deerfield area from a ½ court to a full court, expansion of some of the maintenance buildings, a new park office/camper registration building near the existing park entrance contact station, and new roads and parking associated with some of the new facilities.

Another potential impact on land would result from the construction of new trails. The Final Trails Plan for the park (Appendix B) will increase the total mileage of designated trails by 5.5 miles. This increase includes development of 1.5 miles of previously approved trails (Lyons, 2008), 4.5 miles of new trails (including 0.9 miles of reroutes), designation of 0.9 miles of existing but undesignated corridors, and closure of 1.7 miles of trails. The trails planning process allowed OPRHP to take a comprehensive look at the park's trail system, evaluate the condition of existing designated and undesignated trails, and evaluate proposals for new trails. The proposed new trails provide new recreational opportunities, offer loops of varying lengths for different abilities, and reroute some poorly designed sections of existing trails. In addition, evaluation of the entire trail system as a whole has resulted in recommendations for

improvements to trail drainage in some locations and closure of some trails that were no longer needed.

Some of the proposed new developments such as new picnic shelters, new park office, and additions to the maintenance facilities will occur in areas of the park that are already developed or were previously developed and will require minimal new land disturbance. Other new developments such as the new camping area, cabins and the proposed nature center may require some grading and could result in larger areas of new land disturbance.

As shown in Figure 8 and discussed in Appendix C, most of the areas proposed for new development consist of Buckland (BuC) very stony loam, sloping, and Glover (GIC) very stony loam (NCRS, 2010). The Buckland soils in the areas proposed for development are somewhat limited for camp site, picnic area and trail development. The Glover soils are very limited for development of camp areas due to large stone content, slope and depth to bedrock. The limitations will be minimized through proper site planning, design and installation. The Buckland soils are also moderately suited for roads and the Glover soils have only slight to moderate limitations for roads and trails (NRCS, 2010). Both soil types have severe limitations for septic tank absorption fields due primarily to their depth to saturated zone and restricted permeability (NRCS, 2011). The absorption fields will be designed at a later date after percolation tests are conducted. If necessary, imported fill material will be used to elevate the absorption trenches to at least 24 inches above the limiting soils in accordance with NYS DOH regulations.

Steep slopes have been avoided in selection of locations for new proposed developments. Most of the proposed new developments are located in areas with moderate slopes from 0-8% with a few areas of 8-12% slope. Careful planning and site-specific design will be applied to all new facilities to minimize the potential for erosion.

The construction of some new trails will result in some vegetation removal and soil disturbance depending on the type and location of the trail. Disturbance will be limited primarily to the required width of the trail corridor (i.e. 4 feet for hiking, single track mountain biking and equestrian and 12 feet for snowmobile trails). As noted in the Final Trails Plan (Appendix B), trail construction will follow the policies and guidelines for trail building that have been established by recognized trail organizations and government agencies. Adherence to these guidelines will assure that work is completed in a manner that maximizes protection of park resources.

An erosion control plan will be prepared for all construction projects proposed in the Master Plan that have the potential to disturb park soils or result in erosion. Any projects that disturb one acre or more will be subject to the State Pollution Discharge Elimination System (SPDES) General Permit process. This process includes the development of a site-specific Stormwater Pollution Prevention Plan (SWPP) and sedimentation and erosion control plans. Best management practices (BMP's) as described in the New York Standards and Specifications for Erosion and Sediment Control (NYS Soil and Water Conservation Committee, 2005) will be used to reduce impacts to soils on the project sites. Some measures which will be used include minimizing soil disturbance and vegetation clearing, the use of silt fencing and straw bales where needed, preservation of vegetated buffers, and seeding and mulching of disturbed areas as soon as possible following work.

No new buildings or facilities are proposed in flood-prone areas within the park. All areas proposed for new development are in FEMA Zone C – above the 500-year flood level (FEMA, 1978).

In all, within the roughly 2,545 acre park, a maximum area of approximately 16 acres (0.6%) may be modified. This includes about 2.5 acres of new impervious surfaces (roof areas, pavement and gravel roads and parking areas), approximately 1.5 acres in new semi-pervious development (tent pads) or other facilities, and approximately 2.5 acres in new trails with either a natural or stone dust surface. Overall, much of the park will remain undeveloped.

Water

The Master Plan will result in some beneficial impacts to Long Pond. As discussed in Appendix A, the concrete paths near the bathhouse and beach often result in runoff onto the beach and transport of beach sand and warmer water into the lake during storm events. The master plan recommends the installation of a series of rain gardens in the beach area so that most stormwater runoff can be funneled slowly back into the ground. The trench drains would also be restored and redirected into the rain gardens. Existing catch basins and drainage pipes would be incorporated as an overflow system for very large storm events in the event that the rain gardens reach capacity, redirecting excess water through the existing stormwater system. As discussed in Chapter 3 and Appendix A, there are six lakes in the park which currently all have good to excellent water quality overall (Husson, Lyons and Terbush,, 2011). Shaver Pond has been identified by the NY Natural Heritage Program as a significant ecological community (Evans et. al., 2003). Concern has been expressed that new development in the watersheds of the park's lakes could result in additional nutrient loading that could lead to eutrophication and algae blooms (Hartney, 1981). One of the goals of the Final Master Plan is to protect the quality and quantity of surface and subsurface water resources of the park.

Projects proposed within the final Master Plan with the potential to impact water quality include construction of the new Nature center in the Shaver Pond watershed, construction of new camping areas in the Long Pond watershed, construction of cabins in the White Lily Pond watershed, some new trails or trail improvements near some of the lakes and 2 new fishing/viewing platforms, one each on Shaver and Long Ponds. As these new developments all have the potential to impact water quality in the park's lakes, additional lake monitoring has been conducted during the summer of 2011 to establish baseline levels of nutrients in the lakes. For these projects and others that will occur close to water resources, efforts will be taken to reduce the runoff of stormwater from construction sites into streams and lakes. The New York Natural Heritage Program (Lundgren and Smith, 2010) recommended maintaining a buffer of natural vegetation of at least 30 meters (approx. 98 ft.) between the shore of Shaver Pond and any new roads and developed areas to protect the water quality of this significant lake. Vegetated buffers between any new buildings or parking areas and lakes will be retained, with additional native buffer plantings as needed. For the protection of water resources all new facilities will be set back at least 250 feet from the lakes.

Current pavement and impervious surfaces in the park are fairly limited consisting mostly of the major roadways, the picnic and beach parking areas, maintenance area, and park buildings including the beach buildings, park office, park police building, picnic shelters, and comfort stations. New pavement proposed within the final master plan includes approximately 1 acre for roads and parking in the proposed camping area, new road and parking for the Nature Center (0.1 acres), new drive and parking near new park office (approx. 0.1 acre), 1½ new basketball courts (0.15 acres) and potentially up to 0.5 acres for roads and drives in the White Lily cabin area. In addition, surface area of new buildings with impervious roofs will include the new nature center, new building at the park entrance, new cabins at the White Lily Pond area and potentially in the new camping area, a shower building for the camping area, a new pavilion in the Deerfield

picnic area and expansion of maintenance buildings (approximately 0.5 acres). The total maximum acreage of all of these new impervious surfaces is approximately 2.5 acres.

An increase in impervious surfaces could result in an increase in the quantity and velocity of runoff generated during storm events. Permeable materials will be used whenever practical with respect to cost and operations, especially for parking areas and for areas that will not need to be plowed in the winter time, such as camping area roads. As mitigation, use of pervious materials will help prevent runoff from reaching the lakes following storm events. All new roads and parking areas will have drainage infrastructure designed to mitigate stormwater runoff. Green design will be utilized for the buildings as much as possible. Rain gardens will be installed at the new nature center to help reduce runoff into Shaver Pond. Proper design of roads, trails and facilities is essential to reduce the risk of runoff and erosion.

Based on the current trophic status of the park's lakes it is not likely that new developments will result in eutrophication of the lakes. However, careful site planning and design will be used to help protect lake water quality. Wastewater treatment systems for these new facilities will also be very carefully designed to minimize impacts to the lakes. Due to the poorly drained soils in the park, fill may be needed to construct leach fields for the new facilities. The new leach fields will be located as far as possible from the lakes while still allowing for gravity flow. The master plan calls for continuation of lake monitoring. If impacts on water quality are detected, steps will be taken to address any sources of pollution potentially affecting the lakes.

The Master Plan also calls for construction of two small fishing and viewing platforms, one on Long Pond and the other on Shaver Pond. Construction of these platforms may be subject to DEC and/or US Army Corps of engineers permits. The amount of work to be performed in the water will be minimized and no work will occur during fish spawning and propagation periods. Proper sedimentation and erosion control measures will be implemented during construction and disturbed shoreline areas will be immediately revegetated following construction to reduce sedimentation into the lakes. Beneficial impacts of these platforms include the concentration of fishermen in one small area which reduces trampling impacts on the rest of the shoreline.

Work on trails including improvements to existing trails and undesignated trails, as well as proposed new trails, have the potential to impact water resources in the park. The Final Trails Plan identifies several trails with drainage problems, including standing water and seasonal wet areas. Standard water abatement techniques may help remediate these concerns. Work on existing trails and upgrades to undesignated trails will be undertaken using the established guidelines referenced in the Final Trails Plan. Trail areas that require more than routine measures will be identified through the approval process described in the plan and remedies, such as construction of culverts, bridges or boardwalks, will be planned in conjunction with regional and park staff. Regional staff will review proposals and consult with NYS Department of Environmental Conservation and/or the US Army Corps of Engineers as appropriate.

During field layout of trails, the agency will attempt to minimize stream crossings to the extent possible and retain a buffer between new trails and water bodies. All new trail work will be designed to control stormwater and minimize erosion.

One of the largest potential threats to the park's lakes is the introduction of invasive aquatic species. Small amounts of Eurasian watermilfoil (*Myriophyllum spicatum*) were found in both Long Pond and Mill Pond during recent surveys. OPRHP will conduct more detailed surveys of the lakes to determine the locations and extent of the milfoil and determine the best control actions. The Early Detection Rapid Response process will be applied to this invasive species. Signage will be installed at all boat launches informing patrons about the need to clean boats and

equipment when travelling from one lake to another to prevent the spread of invasive aquatic species and boxes will be available for disposal of aquatic plants at all boat launch areas. In addition, boat wash stations with a power washer will be installed at the Long Pond boat launch and at the main entrance contact station for the park.

Wetlands

There are 2 NYS DEC designated wetlands (G-19 and G-28) located within or mostly within the park. In addition, portions of G-24, G-27, and G-33 are adjacent to the park and portions of their check zones include parkland. Several smaller National Wetland Inventory wetlands have also been mapped in the park (Figure 11). These wetlands are an important contribution to the biodiversity of the park. The locations of proposed new facilities in the master plan were selected so as not to impact any wetlands or their buffer areas.

A major threat to all wetlands is the expansion of invasive species, particularly purple loosestrife, *Phragmites australis,* and Japanese knotweed. Removal of invasive species and allowing for regeneration of native species of plants, and providing restoration plantings where needed, will restore and protect this biodiversity.

Air

The addition of camping to the park has the potential to result in some impacts to air quality as a result of more vehicle use on park roads. As discussed in the Environmental Setting section, Rensselaer County, including the park, is within the Capital Region nonattainment area for ozone. Vehicle emissions are one of the primary factors in the creation of ozone. Although most of the ozone pollution in the park is a result of being downwind of major emissions in the Albany area, the increase in vehicles in the park could worsen the ozone levels, especially during high ozone events. This impact would only occur during the camping and beach season (95 days/year) and would be likely only on a limited number of days.

Air quality was considered in the location of the camping area to the north of Long Pond as it is within easy walking distance of the beach. Potential mitigation measures include encouraging patrons in the camping area to use the improved trails to walk to the beach and day use areas instead of driving and promotion of CDTA bus use for day users.

DEC maintains an air monitoring station at the park. It is proposed that this monitoring equipment be relocated to the new nature center and interpreted there. Education on air pollution and ozone may result in reduced vehicular use by park patrons. The park will work closely with DEC air quality staff regarding monitoring results and any mitigation steps that might be deemed appropriate.

Construction of new cabins in the White Lily Pond area could also have a minor impact on air quality since patrons would have to drive to reach any of the day use facilities. The small number of vehicles using this area at any given time, however, is not expected to result in a significant impact.

Additional impacts may occur from use of the new nature center. However, it is expected that the primary users of the nature center during the summer season will be park patrons already at the park for camping or day use. During the rest of the year, this center will bring more cars into the park. Impacts to air quality, however, are expected to be minor as most ozone events occur during the summer months. The new nature center will have very limited parking – only 5 spaces, and buses and cars will need to park in the main beach parking lot. Patrons will be

directed to walk on the nature trail from the parking lot. Buses will be required to turn off their engines while in the parking lot.

Other potential air quality impacts as a result of master plan implementation will be minimal. Temporary impacts that may occur as a result of master plan implementation could include minor increases in vehicle exhaust and some generation of dust during construction. Construction of projects proposed in the Master Plan will take place over several years, however, so impacts would be widely spread out both in space and time. Air quality impacts from construction vehicles will be mitigated by assuring that these vehicles are in good running condition and are not producing excessive exhaust.

Biological Resources/Ecology

Grafton Lakes State Park is part of the Rensselaer Plateau, a 196,000-acre forested plateau in eastern Rensselaer County which includes the fifth largest unfragmented forest in New York State. The Plateau also supports several unique wetland communities, "an impressive mammal diversity not typical of the greater Capital District" (NYS DEC, 2011), and is listed as an Important Bird Area by the National Audubon Society based on its bird diversity and the abundance of forest breeding bird species, some of which are on the state "at-risk" species list. The importance of the natural resources within the park is recognized by the proposed designation of the southern portion of the park as a Park Preservation Area, and designation of the entire park as a Bird Conservation Area. The Park Preservation Area includes the entire area of the park south of Route 2 (Figure 16). This designation recognizes that this area is an invaluable and irreplaceable part of the state's natural heritage, which warrants special recognition and protection for future generations. In general, this area of the park is almost entirely natural. Consistent with Article 20 of PRHP, this designation provides recognition of the resources and a framework for their conservation and use in environmental education. Article 20 indicates that uses within Park Preservation Areas will be limited to passive uses, and amount to no more than 15% of the area. Proposed development within the proposed Park Preservation Area includes only 0.9 acres of new trails. The total development of this area (existing and proposed) is estimated at less than 5%.

Ecological Communities

Over one half of Grafton Lakes SP contains natural communities that have been documented as significant by the Natural Heritage Program (Lundgren, 2010, Evans et. al, 2003) (Figure 10). The significant forest communities are part of a larger block of matrix hemlock-hardwood and beech-maple mesic forest that extends far beyond the park's boundaries to Cherry Plain State Park and beyond. The spruce-northern hardwood forest is the largest of this type outside of the Adirondacks and Catskills and also extends beyond the boundaries of the park (Evans et. al, 2003).

Master Plan implementation will necessarily result in impacts to some of the natural communities in the park. Table 12 provides a breakdown of the maximum total parkland areas impacted in each Ecological Community type. Approximately 16 acres would be impacted. Of this amount, about 0.35 acres are currently developed or lawn area and 3.4 acres are not ecological communities of statewide significance. Of the 1,692 acres of natural communities of statewide significance identified in Grafton Lakes State Park, approximately 12.2 acres (0.7%) could possibly be impacted by construction of new facilities or trails.

Table 7 Ecological Community types affected by Master Plan implementation*

Ecological community type	Maximum Acres Impacted
Beech-Maple Mesic Forest	**7.17**
Conifer Plantation	0.07
Developed and Lawn	0.35
Hemlock Northern Hardwood Forest	**4.3**
Spruce Northern Hardwood forest	**0.75**
Red maple hardwood swamp	0.17
Successional northern hardwoods	0.53
Successional Old Field	2.59
Total area impacted	15.93
Total Sig. ecol. communities	**12.22**

***Bold indicates significant ecological communities**

Development of the proposed new camping area and Nature Center will have the greatest impact on significant natural communities in the park. The ultimate footprint for the camping area is unknown, but could impact approximately 3 acres of Hemlock-Northern Hardwood forest, and approximately 7 acres of Beech-Maple Mesic Hardwood forest. These are maximum estimates, however, based on a footprint of the entire potential area to be developed. During site specific design of the camping area, the agency will make every effort to protect large specimen trees and maintain forest canopy cover in the area to the extent possible.

The proposed Nature Center and associated amphitheater could impact up to ½ acre of Hemlock Northern Hardwood forest. Again, while a large clearing will be necessary for the main building, site specific design and layout will work to avoid large, healthy specimen trees to the extent possible.

Alternative sites were considered for both of these new developments as discussed in Appendix A. Overall, the sites selected provided the best locations for the facilities based on proximity to existing utilities and other facilities thus reducing impacts of other kinds.

Trail use is one of the primary recreational opportunities in the park. There are 21.1 miles of existing designated trails in the park. These existing trails are located in practically every ecological community type in the park. As recommended by the Natural Heritage Program (Lundgren and Smith, 2010), the amount of new trail construction proposed in the park has been limited in order to maintain the integrity of the natural communities and protect sensitive areas. Significant ecological communities that could be impacted by new trail construction include approximately 0.17 acre of Beech-Maple Mesic Forest, about ¾ acre of Spruce-Northern Hardwood Forest, and 0.8 acre of Hemlock Northern Hardwood Forest. It is likely, however, that impacts to these important communities will be lower once the new trails are actually laid out in the field. Estimates used for determining acreages assumed that the entire corridor width for each trail type (i.e. 4 feet for hiking, single track mountain biking and equestrian and 12 feet for snowmobiles) would be cleared. In many cases, it may not be necessary to clear such a wide area in order to locate a trail. Proposed routes for new trails and other facilities will be carefully placed using appropriate design and construction methods to minimize impacts. Final trail alignment will be chosen in order to keep grading and vegetation clearing to a minimum.

Vegetation/Plants

Designation of the entire park as an Invasive Species Prevention Zone (ISPZ) will be beneficial to native vegetation in the park. The Agency's invasive species team reported that very low levels of invasive species are currently present in the park. Invasive species have been documented in only a few locations and no areas of heavy infestations were found (O'Brien, 2011). The ISPZ designation of the park will result in added awareness of the need to prevent invasive species from becoming established in the park through the development of an ISPZ kiosk, signage and other educational materials for the public and park staff. The master plan will provide more formal recognition of management strategies to control invasive plants, particularly those affecting sensitive species and habitats. Eradication of existing invasive species and prevention of new occurrences are included as elements of invasive species management within the plan. Invasive species control will benefit native plants and communities by providing them more opportunity to persist in the park. Once they are established, native plants require less maintenance and have far greater ecological value than non-native alternatives. Since these native species have adapted together over many years in this area, the mutual relationships that have evolved will be a benefit to both native plant and animal populations.

The Master Plan calls for restoration of native vegetation in certain areas of the park. Any new plantings will be native or historically appropriate non-invasive plants. Landscape planting will use plants indigenous to the area wherever possible. Selection of plant species or communities of species will be site specific, taking into consideration the natural, ecological, historic, archeological, and aesthetic elements in the immediate areas as well as the management goals of the park.

Much of the proposed Master Plan emphasizes rehabilitation and upgrade of the park's existing and day use recreation facilities and support facilities such as improvements to picnic areas, replacement of tents with pavilions, drainage improvements in the beach area and expansion of some maintenance buildings. In addition, there are some proposed new facilities in currently developed areas of the park.

Exceptions to this include the proposed new camping area, cabin area and nature center. The proposed cabin loop near White Lily Pond is expected to result in minimal tree removal as it is located at the site of a former YMCA camp. The area to be developed is primarily successional old field with some younger trees interspersed. Impacts to trees from development of the new camping area and nature center are addressed above. All the work in facility and trail location and site design will be in keeping with OPRHP's tree management policy (OPRHP 2009b). Tree removal will be minimized through careful siting of roads, trails and facilities.

Although no state listed rare plants are currently documented within Grafton Lakes SP (Evans et. al., 2003) the Natural Heritage Program recommends that a thorough search for rare plants be conducted prior to any management practices that alter plant habitat. Site-specific surveys will be conducted to assure that there are no rare species or habitats present in any areas to be developed for trails or facilities. Findings from these surveys will be used to develop site designs that minimize impacts on natural resources.

OPRHP will continue to monitor trail use and recreation sites for impacts to vegetation and natural communities. Impacts will be monitored to ensure rapid response to trail degradation from overuse. Consideration will be given to adding boardwalks to bridges on trails in seasonally wet areas that receive heavy use.

Animals

Overall, the proposed Master Plan will result in beneficial impacts to the park's fish and wildlife resources. Designation of the park as a Bird Conservation Area will provide added recognition of the importance of the park for migratory and nesting birds. A Management Guidance Summary will be developed for the BCA which will provide more specific recommendations for protection of birds, especially woodland raptors nesting in the park. Additional funds may also be available through the BCA program for bird survey work, construction of kiosks and other educational materials. Development of a new year-round nature center at the park will provide a permanent location for exhibits and displays aimed at educating park patrons about the BCA and the park's other wildlife and habitats.

Current wildlife policies and practices such as fish stocking, hunting and control of nuisance wildlife as needed will continue in consultation with DEC. OPRHP is developing a wildlife manual that will provide additional guidance to facility managers and other staff regarding these and other wildlife issues. Part of this manual will address damage caused by wildlife, and when and how to take action to address such damage concerns.

The construction and use of new facilities and trails in the park has the potential to impact wildlife. Wildlife can be impacted either directly during construction activities or indirectly through the effects associated with use of the areas following construction. Sensitive habitats were considered during site selection for facilities and trails so that these areas are avoided. Timing of construction activities will be scheduled to avoid wildlife breeding periods. The NY Natural Heritage program does not contain any records of endangered or threatened animals from Grafton Lakes SP (Evans et. al. 2003, Lundgren and Smith, 2010). However, site-specific design of new facilities and trails will include surveys for sensitive or rare species or habitats. If needed, proposed facilities or trails will be re-located to avoid or minimize any adverse impacts.

The Natural Heritage reports (Evans et. al, 2003 and Lundgren and Smith, 2010) indicate that the park has had nests of state special concern raptors including red-shouldered hawk, Cooper's Hawk, Northern Goshawk and Broad-winged hawk in the past. Since these species frequently use the same nest tree for many years, OPRHP will avoid cutting of nest trees during construction of new facilities or trails. There will be an annual spring search for active nests and if any are found, park staff will consult with DEC to determine the best measures to protect these species including possible temporary closures of sections of trails if necessary.

The Rensselaer Plateau contains the fifth largest unfragmented forest in New York State and supports an impressive diversity of wildlife. Large unfragmented forest areas provide habitat for native mammals with large ranges and birds that are sensitive to disturbances. Forests that are unfragmented by roads and development have less edge areas and fewer corridors which helps protect them from invasive species (NYS DEC, 2010). The construction and use of new camping, cabins, a nature center and trails in the park has the potential to impact wildlife, especially through fragmentation of the forest. Large areas of undisturbed and unfragmented forest support an abundance and diversity of forest breeding songbirds, including some species that are known to be area sensitive. The Natural Heritage Program (Lundgren and Smith, 2010) recommended minimizing further fragmentation of large forest areas in the park that are part of the relatively unfragmented area of the Rensselaer Forest tract. This recommendation was taken into consideration during evaluation of alternatives for locations of new facilities. Several of the new facilities proposed in the Master Plan are not located in interior forest areas and will not contribute to additional fragmentation. The area selected for development of the new camping facility to the north of Long Pond can already be considered partially fragmented by the road and water tower. This new proposal will result in increased fragmentation of approx. 10 acres of

forested area. However, selection of this alternative location for camping instead of the area to the south of Long Pond protects a much larger area of relatively undisturbed forest and lakes that are contiguous with additional undisturbed forest areas outside of the park boundary.

Invasive Species

Trail uses, 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. In the past, throughout the state, some invasive plant species have been intentionally planted for erosion control, landscaping, or wildflower projects. In addition, firewood poses significant risk of movement of invasive forest pests. Firewood for camping, is often collected from trees that have died or are weakened or damaged by invasive insects or diseases. As such, the transport of firewood into the park can potentially be a major pathway for the introduction of invasive species.

It is important to implement Best Management Practices (BMP) to minimize spread of invasive species. Practices such as proper material disposal and equipment cleaning methods limit the potential of invasives to establish in new locations within and beyond a site. DOT has developed useful BMPs for invasive plant control (NYSDOT 2009) that can be tailored to agency or park-specific projects and operations.

The largest invasive species threat to the forests in Grafton Lakes State Park is forest insect pests. The Emerald Ash Borer, Asian Long-horned beetle, and the Hemlock Woolley Adelgid have the potential to result in major damage to the forests if they are introduced into the park. Precautions such as surveying and monitoring for such species should be included as part of the invasive species strategy. Since camping will be introduced to the park for the first time, enforcement of firewood regulations and providing local sources of firewood to campers will be critical. Educational information for campers should be provided, including brochures, posters, bookmarks and other materials as available.

Historic and Archeological Resources

Historic Resources. The Master Plan will have no adverse impacts on historic resources either listed on or determined eligible for listing on the National Register of Historic Places. As recommended by the State Historic Preservation Office, the four cemeteries in the park will be surveyed, preserved and protected. The Dickenson Hill Fire Tower will continue to be restored and will then be open for public access. Educational materials will be developed to interpret the historic resources in the park.

Archeological Resources. There are no new development proposals in the Master Plan near any known areas of archeological sensitivity in the park. However, the State Historic Preservation Office has requested that a Phase 1A archaeological survey of the park be conducted prior to any new development to identify any potential resources and prevent impacts to them (Adams, 2011). Future proposals affecting the dam for the Martin Dunham Reservoir may require a site-specific archeological survey as this is within an area of known archeological sensitivity.

Scenic Resources

Implementation of the Master Plan will not result in any significant adverse impacts on scenic resources in the park. The plan calls for protection of scenic resources along lake shorelines by limiting views of new development. A comprehensive scenic resource management plan will be developed to protect the viewshed from the fire tower.

Recreation/Open Space

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 including a new park nature center with an amphitheater, a new camping area, a new park office near the entrance for camper registration and patron information, new 4-season cabins near White Lily Pond, new and improved picnic shelters as well as other amenities. The trails planning process has resulted in a comprehensive assessment of the existing trails at the park as well as an opportunity for evaluation of new trail uses and routes. Implementation of the Trails Plan will result in a better organized trail system which will accommodate a variety of uses including hiking, biking, equestrian, snowshoeing, skiing and snowmobiling. Trail plan implementation will also result in improved trail maintenance including drainage and an improved trail signage system. The proposed new trails provide new recreational opportunities, such as single-track mountain biking and offer loops of varying lengths for patrons of different abilities.

Designation of the southern portion of the park as Park Preservation Area will not result in adverse impacts to current recreation opportunities provided at the park. The areas of the park not designated Park Preservation Area will continue to support more intensive recreation activities such as the bathing beach and day use activities and environmental education and new activities such as camping and cabins will be added to this 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.

Transportation, Access and Traffic

The introduction of camping in the park has the potential to increase the number of cars using the park during the summer months by up to 18% as discussed in the section of this chapter under Air. However, it is felt that the existing and proposed park roads have the capacity to handle this increase. The existing jug handle park entrance on Route 2 will allow queuing space during the busiest times when campers are waiting to register. There will continue to be a few weekends during the summer when the beach parking lot is full. The plan proposes better advertisement of the public CDTA bus that brings patrons to the park during the summer to help mitigate some potential traffic issues on these days. In addition, campers will be limited to 2 vehicles per site and will be strongly encouraged to walk or bicycle to the beach and day use areas.

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. Improvements to the trail system near Long Pond will allow campers to access the beach via trails rather than walking or bicycling on the roads which will facilitate safer recreation for families staying in the camping area.

The Agency has been working with NYS DOT with respect to the safety of the park entrance along Route 2. The speed limit has been lowered in this area and speed sensor signs will be put in place to alert drivers to their speeds in this area. The Agency will continue to work with DOT on other potential ways to make this entrance safer.

The introduction of camping to the park will necessarily increase the potential for incidents affecting public health and safety. More park staff and park police or rangers will be needed to ensure compliance with park rules and protect public safety, especially at night.

Energy, Noise and odor

Energy efficiency and sustainability of the park is discussed in Chapter 6. Sustainability principles and energy efficiency will be incorporated into the design of all new park buildings, especially the new park nature center.

Master Plan implementation may result in some minor temporary increases in noise during construction.

The introduction of camping into a park that is currently day-use only will result in increased noise at night. No significant adverse impacts to the local community are anticipated as the proposed location of camping is a considerable distance away from neighboring residences. Standard park rules and regulations with respect to quiet times will be applied and enforced in the new camping and cabin areas.

Unavoidable Adverse Effects

The proposed Master Plan will result in some unavoidable adverse impacts. There will be some minimal permanent loss of pervious soil surface and vegetative cover as a result of construction of the new nature center, camping area, cabins, trails and other proposed new facilities. This will be monitored by park staff and action will be taken, if necessary, to prevent any significant impacts from occurring.

In addition to the impacts outlined above, there will also be temporary adverse air and noise impacts (e.g. fugitive dust, noise from construction equipment and vehicles, etc.) associated with construction of proposed improvements.

Irreversible and Irretrievable Commitments of Resources

The planning, development and implementation of this Master Plan including construction of a new nature center, camping area and cabins and other new proposed facilities, infrastructure and trails 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.

Growth Inducement

Implementation of the Master Plan will result in some increased recreational use of the park. This increased recreational use 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 activities such as camping and day-use are a major element in the economic vitality of localities. With the addition of camping and winterized cabin facilities, Grafton Lakes State Park, with its significant natural resources and location near major state and county roadways, helps to make this a reality.

Supplemental Environmental Review

Portions of this Final 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 and EIS 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, easements, 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 proposals for new trails, trail segments or trail uses not addressed within the Trails Plan that is a part of this master plan.
- Any proposals for a new beach generated from the proposed feasibility study.
- Proposals to address a trail crossing of the Martin Dunham Reservoir outflow.

Chapter 8 – Comments and Responses

Introduction

This chapter contains the responses to the comments received by OPRHP on the Draft Master Plan and Draft Environmental Impact Statement (DEIS) for Grafton Lakes State Park. The Draft Master Plan/DEIS was issued in November 9, 2011 A Public Hearing was held in Grafton, New York at the Everett Wager Senior Center on November 29, 2011. The comment period ended December 16, 2011.

During the Public Hearing 16 people spoke out of approximately 50 attendees. Their comments were recorded. During the comment period for the Draft Master Plan/DEIS, the Agency received 22 written comments by letter and email. A list of persons providing comments is included at the end of this chapter.

OPRHP appreciates the time and effort that persons interested in the future of Grafton Lakes State Park 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).

Significant Changes to the Draft Master Plan in the Final Master Plan

- Campground has been moved from Long Pond Road to the area north of the Long Pond beach at the end of Water Tower Rd. Master plan pages xvii and 60. Appendix A page A-22 to A-24, Figure A5 and Master Plan Map.
- The implementation tables have been changed to include rehabilitation of existing facilities in Priority 1 (pages xix and 65).
- Changes have been made to the Environmental Impacts and Mitigation Chapter on pages 68, 69, 74, 75,78 and 80 to reflect the change in location of the proposed camping area. These changes reflect a smaller area of parkland potentially being impacted (16 acres instead of 23) and changes in: the amounts of new impervious surfaces, ecological communities impacted, and fragmentation discussion. Additional information has also been provided under Public Health and Safety.

Responses 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 are summarized comments. Following each summarized comment is the Agency's response.

General Plan Comments

Comment: Construction Schedule for Nature Center

The commenter wanted to know if an RFP or RFQ, estimated construction cost, bidding or construction schedule or scope of work had been developed for the new Nature Center

Response:

The plan is only in the conceptual stage at this point so there are currently no RFP's, cost estimates or construction schedules, etc. This would only happen after the plan is adopted, and when funds are available to begin implementation.

Comment: Cost of Funding the Plan

Concern was expressed that given the current lack of funds, deteriorating infrastructure, budget cutbacks and layoffs in New York State, how can the state afford to pay for the items in this plan?

Response:

As it is stated on page 64, this plan sets forth a vision for the park over the next 10-15 years. The pace and sequencing of the recommended actions will be determined by availability of funding (which is balanced over the entire State Park system) over that time span, including funding for rehabilitation and maintenance.

Comment: Agree to the Master Plan Alternative

Agreement was expressed that the master plan alternative is more desirable than the status quo. The status quo will not prevent deterioration of the park nor equip it for increased future use.

Response:

Your comment is noted.

Comment: Priority Phases

Suggestion was made to include paving, sealing and building maintenance in the on-going priorities. Further suggested that the Nature Center should only be in the priority one level if funding and implementing it does not impact the implementation of other items and ongoing maintenance.

Response:

The implementation tables have been changed to include rehabilitation of existing facilities in Priority 1 (pages xix and 65). The nature center is considered to be essential to fulfilling the park's goal of providing world class environmental education & interpretation which will benefit all park patrons and the surrounding community. As such, it is given a high priority when funding becomes available.

Comment: Appreciation

Appreciation was expressed for the hard work that people put into the plan, do not detract anything from the plan except possibly holding off on the camping until other infrastructure needs are met.

Response:

Your comment is noted. Camping will be developed as funding is available.

Comment: Beach at Martin Dunham Reservoir

A comment was received expressing the commenter's disagreement with doing a feasibility study for a beach at Martin Dunham Reservoir.

Response:

There is no plan for a feasibility study for a beach on Martin Dunham Reservoir. However, the way the feasibility studies were described in the Draft Plan on page xvii may have caused one to misunderstand the statement. The meaning of the statement is that two feasibility studies are proposed, one to study the possibility of adding another beach on Long Pond, and the second to study the feasibility of trail crossing at the Martin Dunham Reservoir Outlet. This confusion has been corrected in the final plan, page xvii.

Comment: Is the park utilized?

Uncertainty was expressed that facilities at the park are utilized. Specific mention was made about the park police building. Further that the community should be informed about the utilization of the park facilities before dollars are spent on new facilities. It would be better to invest in existing facilities than start building brand new.

Response:

Grafton Lakes State Park is one of the most visited parks in the Saratoga-Capital District park region. In 2010-2011 the park served 230,000 people. This attendance is dependant on utilizing all the facilities in the park. The park police building serves several parks in the park region in addition to Grafton Lakes State Park. These parks would not be served adequately without modern police facilities that are available at the park police headquarters.

New facilities that are planned in this master plan are being proposed to better serve the patrons and fulfill the park's many recreation and preservation goals.

Comment: Hydroelectric production at Martin Dunham Reservoir

Suggestion was made to develop hydroelectric resources at the park at Martin Dunham Reservoir.

Response:

The planning team did study the possibility of developing hydroelectric generation facilities at the park. It was determined that due to the cost of such a development, and the small amount of electricity that would be produced, the project would be economically unfeasible.

Comment: Design with historic nature of the area

Suggestion was made that the design of new buildings reflects the architecture historically linked to this area.

Response:

Your comment is noted; as specific new facilities are designed it may be possible to link the old and new through attention to the historic architecture.

Comment: Re-order the priorities table

Concern was expressed that the order of priorities dealing with Long Pond water quality monitoring is incorrect as stated in the draft master plan.

Response:

The priority levels are correct, the implementation tables are meant to indicate importance rather than sequencing. In addition to ongoing water quality monitoring in all the park's lakes, water quality monitoring in Long Pond would be essential after campground construction in order to compare it with the baseline information gathered before the campground is built.

Comment: Climate description needs to be revised

The comment was made that the climate description in Chapter 3 of the draft master plan underplays the amount of snow. Recent total snowfalls have been more than those stated.

Response:

The snowfall description is an average over a number of years given at the Cornell University website cited in the master plan. Individual years may be above or below that average.

General Park Comments

Comment: Deteriorating Pavement/Use resources to maintain and improve existing structures

Concern was expressed that pavement throughout the park is in a much deteriorated condition. Repair of this should be part of the ongoing priorities and that future resources should be used to maintain and improve existing structures.

Response:

The implementation tables have been changed to include rehabilitation of existing facilities in Priority 1 (pages xix and 65).

Comment: Alcoholic Beverages

There should be an implementation of no alcoholic beverages on the park property.

Response:

Your comment is noted; however policies of this type are formulated at the state level and are beyond the scope of this master plan. More information about rules regarding alcoholic beverages in New York State Parks can be found on the agency website **www.nysparks.com/inside-our-agency/public-documents.aspx**

Comment: Preserve Blueberry Fields

Hope was expressed that the park will continue to maintain the unique blueberry fields which are historic to Grafton.

Response:

The park will continue its current protocol regarding the blueberry fields.

Comment: Preserve Cemeteries

The hope was expressed that the park will continue to maintain and upgrade the four cemeteries.

Response:

The cemeteries in the park are considered an important part of the history of the Town of Grafton and its people. As such, the agency intends to follow recommendations made by the State Historic

Preservation Office regarding those cemeteries. The master plan includes a reference to this on pages 41 and 64-65.

Comment: Stargazing

A request was made to keep Deerfield open at night for stargazing and to build new bathrooms that have lighting conducive to night observation.

Response:

Night time activities such as stargazing at the park will continue under the current protocol. If any new bathrooms are constructed at Deerfield, lighting conducive to night observation will be considered.

Park Entrance

Comment: Park Entrance Unsafe/needs to be redesigned/study what changes can be made.

Comments were made concerned that the current main park entrance intersection on Route 2 is the site of many collisions and is dangerous. The comments suggested that the current "jug handle" left turn solution needs to be eliminated or redesigned. It was suggested that a study be initiated to determine an alternate design for the park entrance, especially to provide an alternative for park patrons travelling east who need to make a left turn into the park entrance road.

Response:

The agency has already initiated work with the New York State Department of Transportation (DOT) to review the situation. Permanent solar powered radar speed signs have been approved by DOT and will be installed on Route 2 in both directions. These signs have been shown to act as traffic calming devices where the speed limit is posted. OPRHP is ready to work further with DOT to come up with an alternative solution. These new signs are also discussed in revisions to Chapter 7 on page 80.

Comment: Use RPI students to study the intersection

The suggestion was made that one way to study this intersection would be to enlist students at RPI where they might use this as a study project for a course.

Response:

This possibility will be looked into by the agency.

Nature Center

Comment: Put nature center in a different location

The opinion was expressed that the proposed nature center be located somewhere with a view of one of the lakes in the park.

Response:

After careful review of several siting possibilities, the planning team feels that the currently proposed location is the most appropriate for the new nature center. This location is easily accessible, has year-round utilities, making it useful as a warming hut in the winter, and is reasonably close to the main park activity area without taking it over. Other locations were

considered, including some with a closer view of a lake than the chosen spot, but they were inadequate for the planned facility in one way or another. Placement of this building closer to a lake could also result in greater environmental impacts.

Comment: Partner with school district/town for nature studies

The comment was made that children in the school district would benefit from nature/environmental studies, and a request was made to consider a joint development of the nature center in the elementary school building partnering with the Town of Grafton, which may have plans to develop a municipal center there.

Response:

The park already works with the school district to plan curricula which include nature studies and environmental education with the Berlin Central School District being given a break on paying for programs. This relationship has been formalized with a Memorandum of Understanding for service exchange with the Outdoor Club. The park naturalist presented to faculty of the Berlin Elementary School covering utilization of the outdoor classroom. School groups regularly visit the park and participate in several projects. The new nature center's purpose is to provide superior facilities at the park where these programs can flourish. The stated goal of the planning team to provide this type of facility is to connect the environmental education program directly with the opportunities available at the park. Although the idea of re-using the empty elementary school is a laudable one, it does not meet the requirements for a park nature center.

Comment:

Support was expressed for increase in environmental education at the park. But the commenter questioned how a balance between the facility and adequate staffing will be achieved.

Response:

Staffing of the park facilities is beyond the scope of this master plan. However, the park has been operating an environmental education program now for many years. Staffing has always been adequate through a combination of full time, part time and temporary employees. It is the physical facilities that have been lacking.

Flora and Fauna Lists

Comment: Add red squirrel

Request was made to add Red Squirrels to the list on D-11

Response:

The list was not meant to be an exhaustive list of all plants and animals found at the park, however, red squirrel has been added to the list.

Camping

Comment: Re-locate proposed camping to Martin Dunham Reservoir area

The suggestion was made that camping should not be located on Long Pond Road, and proposed to relocate the proposed camping to around the Martin Dunham Reservoir.

Response:

The area around the Martin Dunham Reservoir was determined by the planning team to be included in a new Park Preservation Area, which would not support traditional camping facilities such as those proposed for Grafton Lakes State Park. Additionally, the area has many natural constraints, such as slope, access and soil types which would make establishment of camping difficult.

Comment: 75 sites are too many

Comments were received suggesting that 75 campsites were too many for the park and the area close to Long Pond and would detrimentally alter the current beauty and tranquility of the park, especially in the north segment of Long Pond.

Response:

The number of sites that can be supported at a campground is determined by examining the natural features of the site. The area that has been selected for camping has been changed in the final master plan and the number of sites will be determined when a detailed design is produced.

Comment: Impact of camping on the town

Concern was expressed that addition of camping would have a negative impact on the surrounding town's residents, businesses, volunteer fire department, rescue squad and ambulance squad.

Response:

One effect of a larger population of park patrons and ones who would stay overnight and for a few days would be to provide a new source of customers for town businesses. Campers would need groceries, equipment and other types of supplies which could be made available through entrepreneurial activities of the local townspeople. This would have a positive effect on the economy of the town.

The park employs full time staff members who have training and certification in emergency medical services, first aid, and law enforcement. This includes general park staff, lifeguards and park police. Additionally the park has several Automated External Defibrillator (AED) devices throughout the park, and staff members trained to use them. These staff members are called upon for first aid and emergency services before any calls are made to external services.

Comment: Will camping/cabins support the additional staff?

The comment was made that with new cabins and overnight camping there will be a need to pay for more employees, security, etc. This will probably cost more than the state will make on the fees to rent such facilities.

Response:

The type of camping and cabins being proposed for the park is similar to other sites around the state so the additional staff needed is a known quantity. These other facilities are able to meet the needs of the additional staff and so will the facility at Grafton Lakes State Park.

Comment: When funding is limited/is there demand for camping?

Concern was expressed that OPRHP is turning a day use park into one where camping will be developed at a time when funding is limited. Could these limited resources be better used for maintaining/developing non-motorized trails and open space funding to expand parks and acquire buffer areas?

Another commenter expressed doubt that there is a demand for camp sites and cabin rentals.

Response:

The addition of camping at Grafton Lakes State Park is in response to several factors, including consistent requests from park patrons, the high calculated index of needs for camping in the area (see chapter 2, Park Background), and a lack of existing tent, tent-trailer and cabin camping opportunities in the vicinity of the park (Chishti, 2011 – Appendix F). These factors indicated that providing such camping at the park would serve a presently underserved group of park patrons and potential park patrons. Camping therefore is considered an appropriate expenditure of resources. However, any construction of new facilities will only be able to occur if and when funding is available.

There is no plan to further expand the park area through acquisition of buffer zones.

Comment: Alternate location for proposed campground

Requests were made to consider locating the new campground to the right side [north side] of the beach area and along the road close to the water tower.

Response:

The camping proposal has been moved to the north side of the beach area and extending along the road that leads to the water tower. The new location is illustrated in Figure A5 and is described in Appendix A, pages A-22-24; and in the master plan document on pages xvii and 60. Impacts of the new location and mitigation measures are also discussed on pp. 68, 69, 74, 75 and 78.

Comment: Equestrian camping

A request was made for the consideration of overnight horse camping facilities at the park.

Response:

The planning team has decided that, there will be no overnight equestrian camping at Grafton Lakes State Park. The park continues, however, to welcome equestrians on many miles of trail open for day use.

Comment: New campground design and implementation

The comment was made that the new camping area will need to be designed according to Department of Health standards and to provide waste water treatment systems to handle the load of the campground. Given the rocky terrain and soils this may be difficult. It is to be hoped all of that is being considered, especially given that the park has not been able to keep up with its entire existing infrastructure.

Response:

Because the campground site has been moved, see Appendix A pages A-22 to A-24, the new location will be able to utilize the park's sewage treatment and water supply facilities, which will be upgraded to accommodate the camping. This eliminates the need for septic systems. The agency is aware of all Department of Health standards and the campground will be designed to meet those standards, and other existing standards. Detailed design of the campground will also take into account grades, rocky terrain and soils, which will, in part, dictate the configuration of the implemented design.

Comment: Camping at Rabbit Run picnic area

A suggestion was made to implement a small tent only pilot project in the Rabbit Run/South Picnic area, then expand in the future toward Second Pond and North Long Pond Road.

Response:

These two areas are actively used by park patrons and will be developed as per the master plan. They would not be appropriate for camping facilities.

Comment: Wildlife corridor impacted by proposed camping

The opinion was expressed that the riparian corridor that exists between the connected waterways of Mill Pond, Second Pond and Long Pond is not adequately addressed in the Draft Environmental Impact Statement. Mink, beaver, fisher and most recently otter, regularly move up and down between these ponds. The north end of Second Pond is where many waterfowl settle for the night. The proposed campsite locations along the isthmus between Second and Long Ponds will act as a barrier to this movement. Whereas darkness now descends with wildlife having free reign, lights and alert dogs will await their crossing and hunt of the shoreline.

Response:

Based on public comments, including the potential impacts discussed above, the camping proposal has been moved away from this site.

Comment: Light pollution from camping

Concern that lights, spreading down the lake rather than being limited to areas closer to the existing beach and parking lot street lights will detract from camper's ability to experience GLSP glorious night sky famous for its lack of light pollution as any member of the star observatory group can attest.

Response:

The camping proposal has been moved away from the Long Pond Road site. The problem of light pollution in the park will only affect the overnight campers since the day-use portion of the park closes at dusk. But to minimize this effect the design of the campsite will consider including lighting fixtures designed to reduce light pollution. Additionally, camping would only occur from approximately Memorial Day – Labor Day so darkness would prevail for most of the year.

Comment: Carry In, Carry Out

The opinion was expressed that the park would cease to be a 'carry in, carry out' environment with the addition of overnight stays. Additionally, the commenter noted that 'carry in, carry out' is not enforced or respected by many of the current patrons and that frequently the commenter has to pick up litter on the paths around the three main ponds Shaver, Second and Long Ponds.

Response:

Carry in, carry out will not be a part of any new campground opportunities. Campgrounds are serviced by regular trash collection from central deposit sites which are animal proofed and located for easy access to campers. The day use areas of the park would continue to be carry in, carry out. Enforcement of rules and regulations regarding trash disposal are part of the park operations and are not in the scope of this master plan.

Comment: Recreational demand

The opinion was expressed there has not been sufficient demand to keep the Long Pond beach open everyday in the summer, thus showing that there will not be enough demand for camping.

Response:

The shortened hours of available swimming at the park are not an expression of the demand for that activity. On the contrary, the shortened hours were greeted with dismay and consternation by park patrons. There is a demonstrable demand for more swimming hours than are currently provided. The reduction was entirely due to budget cuts.

Comment: Camping near Mill Pond

Opinion was expressed that camping nearer to Mill Pond and Second Pond might provide more economic benefit for the town as well as lessen the reliance of automobiles. Since there were houses in these areas historically, there may also be areas that may better sustain development.

Response:

This area was considered but found not to be feasible due to certain site constraints. The campground has been moved to the area north of the beach and along the road to the water tower.

Cabins

Comment: Support for 4 season cabins

Support was expressed for the proposed 4-season cabins since there is only one place in all of Rensselaer County where you can rent this type of cabin.

Response:

Your comment is noted. This information is supported by the research done on camping facilities in the area. (Chishti, 2011 – Appendix F)

Comment: Ecological effects of cabins

Support was given to siting cabins in the area formerly used as a YMCA camp. Noted was the fact that the cabins are far from While Lily Pond. The commenter anticipates no impact to the lake water quality, no impacts to known rare plants, only minimal impact from invasive species, little or no impacts to the forest landscape integrity and no impacts to important community examples, only to common natural communities.

Response:

Your comment is noted.

Comment: Cabin location on Babcock Lake Road

Concern was expressed about locating cabins on Babcock Lake Road. Access to the cabins along the road would stress the road. Additional comments were made indicating the concern that security is a problem far from the central part of the park. The suggestion was made that the cabin location be in the main part of the park.

Response:

The location that has been chosen for cabins is the site of a former YMCA camp. This area has previously been the site of active recreation and was felt to be the best area in the park to sustain this

type of development. The road is a county road, built and maintained to those specifications. The entrance to the cabin area will be gated and locked when not in use and park police patrols will monitor the area. There are no other appropriate locations in the main part of the park for all-season cabins.

Comment: Impact of cabins

The concern was expressed that the proposal to build cabins in the former YMCA camp would destroy the areas pristine beauty and that buildings of any kind would not be desirable. Further, that White Lily Pond has several ecosystem examples that are classified as exemplary and state significant as well as a number of rare plants. Concern was expressed that campers will not respect or even recognize these. The area is home to deer, bears, foxes, porcupines, turkeys and more, which would be impacted by the development. Snowmobile trails would require the building of paths and increasing the noise level. ATVs would use them at other times of the year.

Response:

There is no evidence to suggest that the proposed cabins would displace wildlife or in any way have more of an impact than the existence of houses in the area. While the area immediately surrounding White Lily Pond might be considered pristine by some, even though there are residences nearby, the area where the cabins will be built is a former YMCA camp and the vegetation, and ecological community represents a disturbed area which has not developed into mature forest (Figure 12). This area is not considered a significant ecological community by the National Heritage Program (NHP) (Figure 13). The area surrounding the proposed cabin colony may contain significant communities and possibly rare plants, but these have not been documented (see responses under Ecological Comments.) These areas will not be subject to cabin development. Further, park regulations require that patrons stay on designated paths and roads. This rule is enforced by park staff and park police.

The proposal does include new trails that would connect the cabin colony with the main part of the park's trail system. Site specific surveys for rare plants will be conducted prior to construction of any new trails and buildings. These trails will be open to hikers and bikers in the main season and to snowmobiles in the winter. ATV's are not allowed in any park in the State Park System. Exceptions to this rule include cases where qualifying people with disabilities are issued permits by the Department of Environmental Conservation (DEC) to access designated routes under their jurisdiction by cars, trucks or ATV's, and in cases where it is deemed safe and appropriate for a person with a mobility disability to operate an other power-driven mobility device (OPDMD) (which may include ATVs) on state park property (per the Department of Justice September 15, 2010 ruling regarding OPDMDs). Use of an ATV on state park land in the latter case may also require a permit. The general prohibition will continue to be enforced by Park Police, as it is now.

Comment: Cabin renters

It was commented that renters of these cabins might be looking for a place to party away from the college campuses in the Capital District and not people who want to enjoy the park for its natural beauty. It would require a staff member there 24/7 to keep it under control. The Grafton Inn - a bed and breakfast on Route 2 - is close by and is rarely filled so there may be no demand for overnight accommodations within the park.

Response:

The agency makes every effort at all campgrounds and cabin areas to enforce the rules and regulations which govern the safety and enjoyment of the campers and neighboring residents. These

rules will be enforced at Grafton Lakes State Park as well. Staffing levels will be decided by park management and are beyond the scope of this master plan.

Staying in a cabin is an entirely different experience than staying in a room at an inn and attracts a different clientele. The decision to provide cabins at the park was made by considering various demand factors including park patron requests, high demand for this type of activity demonstrated in the relative index of recreational needs for the county (Chapter 2-Park Background), and the lack of similar accommodations in the area (Chishti, 2011 – Appendix F).

Comment: Forever green

The comment was made that when the Troy housing authority closed their summer day camp on this property they made it clear to the Grafton Community that this property, even if sold, would remain forever green. Placing cabins on this property will increase traffic on a narrow winding county road. Also cabins will necessitate increased security issues for this area. Increased traffic and increased security issues are not keeping an area forever green.

Response:

There are no deed restrictions on this property or discussions documented with the seller when the property was purchased as to keeping the property “Forever Green.” However, in an attempt to minimize environmental impacts as much as possible, the only part of the property that is being proposed for development is the area disturbed by the previous camp.

Comment: Put cabins where former cottages were

The recommendation was made to use one of the areas that used to have cottages for a smaller 10-20 site area. Since the cottage areas are not quite grown over, there would be less damage to the forestland.

Response:

This area was considered by the planning team (Appendix A, Camping) but was found not to be suitable for the goals being considered. In addition, cabins will be placed in an area that was previously developed as a YMCA camp and would also result in minimal damage to forestland.

Relation of Town and Park

Comment: Master plan will impact town residents

The comment was made that no impact study was done on the Town of Grafton or its residents who are the ones who be affected the most from the implementation of this "master plan.”

Response:

Master plans and environmental impact statements often include socio-economic factors. In the case of this document, existing conditions of park contributions to the economy of the region are included in Chapter 2-Park Background. Changes to the park will most likely result in positive changes to the park’s contribution because of increased number of patrons who will need supplies such as groceries, and equipment, which could be provided by local businesses.

Additionally, other factors which will be impacted by the master plan (such as traffic and air quality) were considered and are discussed in Chapter 7- Environmental Review.

Comment: Expansion of park land

The opinion was expressed that the agency continues to acquire property in the area surrounding the park, and that right now there is an attempt to purchase a large area encompassing White Lily Pond.

Response:

The agency's policy on land acquisition is to negotiate only with willing sellers. There are no such negotiations currently underway.

Comment: No taxes paid to Grafton from the state

The observation was made that since the State does not pay taxes on any of the property it owns, in essence it is bankrupting the already poor town of Grafton. Further, that no consideration was given to pay the Town some kind of camper fee.

Response:

The setting of policy regarding the payment of taxes or payment in lieu of taxes is done at the state level and is beyond the scope of this master plan.

Comment: Eliminate entrance fees for Grafton residents

The suggestion was made to eliminate or reduce entrance fees for Grafton residents. This would be similar to the Empire Pass program or reduced fees for senior citizens.

Response:

Setting of entrance fees (vehicle use fees) is beyond the scope of this master plan.

Comment: Park expansion

Concern was expressed about what the park's expansion will do for the town of Grafton, and that Grafton state park as it is, is more than adequate to fit within the town of Grafton. Additional growth would be in excess and will eventually put additional tax burdens on New Yorkers and burdens on the Grafton community. The greater concern is the growth and change of the community structure of this small town. Please stop the excessive growth and let us enjoy what we have and can afford.

Additionally, concern was expressed that more people may mean more trespassing on surrounding private property

Response:

The agency is planning no excessive expansion or land expansion of Grafton Lakes State Park. The agency is not in negotiation on any parcel at this time and will deal only with willing sellers if and when they offer land for sale. Increased numbers of park patrons will mean some increase in traffic (see Chapter 7 – Environmental Review) as well as a greater demand for local sources of groceries, equipment and eateries.

Additional facilities within the park are being planned to meet the needs of park patrons and have been evaluated as to the level of recreational need and the ecological impacts they may create. Each of these impacts has been found to be able to be mitigated, as is outlined in the plan Chapter 7 – Environmental Review.

Park regulations state that (except under certain conditions) patrons are prohibited from leaving designated trails and roadways and entering into off trail park lands. These regulations are enforced by park staff and park police.

The park clearly posts its property line, which is also the responsibility of each adjacent individual property owner.

Ecological

Comment: Water condition at Long Pond beach

Comment was made that the beach area has changed much from when it was newly established. It has become very distasteful to see what it has evolved into. The water is dirty and discolored; many of the visitors show little respect for the environment or their fellow visitors. It is not conducive with the residents of Grafton.

Response:

The beach is monitored weekly for bacteria according to the New York State Sanitary Code, EPA guidance and the Agency protocol. Water quality at the beach has been consistently excellent. The water quality is so high that the beach has only been closed once in the past 10 years due to poor water quality and has not been closed for water quality concerns for the past three years.

Comment: Addition to invasive species list

The opinion was expressed that wild parsnip should be added to the list of invasive species present at the park.

Response:

The agency invasive species staff has been made aware of this request. To be listed as an invasive species at the park, the occurrence would have to be documented. The list of invasive species at the park was not meant to be exhaustive and will change as new species introductions occur or existing populations are managed. This comment, as well as future invasive species surveys, will be taken into account when developing the details of the Invasive Species Prevention Zone and invasive species protocols for the park. The input of knowledgeable park patrons will be much appreciated as this process moves forward.

Comment: Boat power washers

The comment was made that power washes for boats are an excellent idea and should be implemented as soon as feasible.

Response:

Your comment is noted. The implementation of invasive species program elements will happen according to the list of priorities and available funding.

Comment: Chemical control of invasives

The commenter stated that they were not against using chemical control of terrestrial and aquatic invasives where no other alternative is sufficient.

Response:

The agency's policy regarding the use of pesticides is stated in *OPRHP Policy on Pesticide Reduction in State Parks and Historic Sites*, released in April of 2009. You can view and download a pdf copy of this policy statement at the agency web site **www.nysparks.com/environment/documents.aspx**.

Comment: Invasive Species Prevention Zone (ISPZ)

Agreement was expressed that the park should be designated an Invasive Species Prevention Zone.

Response:

Your comment is noted.

Comment: Park Preservation Area

Comment was made that the area to be designated as Park Preservation Area should be called a reserve instead of a preserve because once it is a preserve it cannot go back. If the Grafton area grows, more resources may be needed at Grafton Lakes State Park (GLSP) and this area may be needed. Also, will the Martin-Dunham Reservoir dam still be allowed if there are no structures allowed in a preserve? Lastly, will motor boats still be allowed on the reservoir? Will the area affect hunting in that part of the park, or other currently allowed activities?

Response:

Park Preservation Areas are part of New York State Park Law (Article 20). They are established to recognize that the area is an invaluable and irreplaceable part of the state's natural heritage, which warrants special recognition and protection for future generations. As such, the very reason for this designation is to prevent future development which would impair the natural resources. If more recreational resources are needed at GLSP in the future, they would have to be located elsewhere.

Park Preservation Areas are not the same as the Wilderness areas in the Adirondacks and Catskills where structures may be prohibited. Therefore this designation will not exclude the Martin Dunham Reservoir dam or its maintenance.

All activities, including hunting, fishing and the use of electric motors which are currently allowed on the reservoir and in the area now being designated as Park Preservation Area, will continue to be allowed.

Comment: Sustainability recommendations

The suggestion was made to

- Employ rainwater harvesting and use that for flush water, and to reduce stormwater runoff on sidewalks and such.
- Plant shade trees on walkways and parking lots to provide cool shady spots and cool off the pavement on sunny, hot days.
- Use a green roof on the new nature center.
- Use permeable paving for new basketball courts to deaden the sound of dribbling.

Response:

All green infrastructure methods for stormwater control, including raingardens (which are already in the plan), rain barrels, green roofs and permeable paving are considered, where appropriate, when designing or rehabilitating facilities.

Shade tree planting is part of the ongoing improvements at the park.

Comment: Mapping of wetlands

The opinion was expressed that one of the first activities that should be taken before any construction occurs is the mapping of federal wetlands. The early mapping and certification of existing wetlands will allow bulldozing and use of other heavy equipment without the ramifications of possible wetland creation.

Response:

Any construction activity at the park will require wetland delineation at the construction site before construction begins. Mapping the entire park would be unfeasible and economically prohibitive.

Comment: State rare plants

The comment was made that the 2003 Natural Heritage report overlooked state-rare plants. (The commenter went on to list several plant species)

Response:

This is inaccurate. Plants described in the commenter's letter are not considered rare enough from a state-wide perspective to be actively tracked. Some of the plants that are mentioned as being considered state-rare are records that have not been verified with specimens, and are therefore considered leads and not confirmed records. For data quality assurance purposes, the New York National Heritage Program (NYNHP) does not enter unconfirmed data into the database, so these records can only be treated as leads until a specimen is verified. NYNHP does not have the resources or capacity to track plants that are not listed as state-rare, including those that are on the Watch List, Review List, or those considered 'county-rare'. However, these observations are valuable and could be considered in park management activities.

Comment: Rare jellyfish

The comment was made that the Freshwater Jellyfish has been observed in Shaver Pond as recently as 2003, but has not been noticed in recent years. The commenter believes that this species is county rare/vulnerable.

Response:

The NY Natural Heritage Program does not track freshwater jellyfish, but this is an interesting observation and does further emphasize the significance of Shaver Pond. Observations such as this are important and will be considered if and when the opportunity arises to conduct assessments for tracking species in this group. Shaver Pond has been identified as a significant natural community (Figure 13) and as a unique high value natural area in the park, so all species of interest – whether of county or statewide significance – should be considered in management actions to protect this pond and the immediate watershed.

Comment: Invasive species

Disagreement was expressed with the statement that there are no areas in the park where invasives area abundant. Bushy rock cress, a very recent introduction to the county and plateau, is already entrenched in the west end of Hicks Trail near Shaver Pond Road. An attempt was made at eradication but the population still exists.

Response:

The 2010 NYNHP report recommends development of an invasive species plan for the park. The detailed information provided by the commenter on specific invasive species and locations should be utilized in the development of the invasive species plan and other management-specific plans. The master plan cites the NYNHP recommendation (Lundgren and Smith 2010) and other sources and outlines a strategy for addressing both aquatic and terrestrial invasives.

Comment: Ecological communities

The comment was made that the ecological communities map is only 85% accurate for community type and boundary and that it would be good to clarify the importance of community examples in the text of the plan, such as interpretation of the term "significant communities" as meaning state-significant.

Areas with the greatest disagreement are – wetland communities surrounding White Lily Pond, lowlands north east of Martin Dunham Reservoir and scattered small isolated wetlands.

Response:

The commenter notes errors in the NYNHP ecological community map. These suggestions are based on more detailed information than were available when the maps were compiled. NYNHP maps are based on limited field survey and orthoimagery interpretation and some community types are subject to different interpretations, these maps are never described as 100% correct The NYNHP map is also at a coarser scale than some of the mapping that the commenter may be aware of and thus does not delineate small patches of uplands or wetlands. As with the rare species, detailed documentation is welcomed. The commenter should submit (via the NYNHP reporting forms) information for communities that are felt to be of statewide significance. Updating the maps and records would be outside the scope of the master plan, but could be included in a future update of the NHP database and reports.

The commenter correctly interprets the use of the term "significant" in the master plan to mean of statewide significance based on NYNHP criteria and this distinction has been added to the master plan (page 41). This does not negate the importance of county-significant features and these can be considered in more detailed planning or education efforts. Many of the county-significant features are encompassed within NYNHP significant communities noted in the master plan, however, as with rare species, the NYNHP does not have the resources to track and map communities at this fine scale.

White Lily Pond itself is outside the park boundaries and therefore can not be included in NHP survey, evaluation, master plan considerations or management recommendations.

Comment: Landscape context

The comment was made that while there is general mention of the park on the Rensselaer Plateau in the plan and some descriptive is provided about the plateau, the plan lacks mention or detail about intermediate-level landscape features such as forest interior areas. Details about specific areas of the park were given and a request was made to include such a description in the master plan.

Response:

The master plan does describe the importance of the intact forest area, some of the associated values, and the park's efforts to minimize impacts to these areas (p 76-78 and Appendix A various sections). The NYNHP recommendations were cited (Lundgren and Smith 2010) as well as other documents which provide more detail and guidance. The park plays a very important role in maintaining these large forest areas in the region and in a number of places the master plan cites this as a consideration for their decisions, but the details provided by the commenter go beyond the scope of the master plan.

Comment: Park preservation area

Support was expressed for the proposed park preservation area (PPA). The commenter also suggested three other areas for consideration to be so designated:

- The forest interior area that extends north west of the park
- The Shaver Pond complex and the adjacent Quacken Kill Headwaters (north of Route 2)
- The White Lily Pond complex

Response:

The forest area was considered for designation by the planning team but was found to contain too high a level of activities which are excluded from PPAs. Therefore it was decided not to propose designation for that area. However the forest is already protected in part by OPRHP Tree Management Policy (which excludes logging) and the master plan text that identifies the high value of the intact forest.

The agency agrees with the commenter as to the ecological importance of Shaver Pond. This importance is noted in the master plan (p. 39 & 70) citing its rarity (Evans et al 2003) and the need for conservation measures citing Lundgren and Smith (2010).

The planning team sincerely considered designating a PPA around Shaver Pond but found that the existing level of development including the Deerfield Picnic area and Shaver Pond Nature Center, as well as the proposed new Nature Center and the need to expand the sewage treatment plant to accommodate the new camping area location, would reduce the size of a PPA to a level that would not be effective. Although we are not recommending a PPA designation, there are several recommendations from the Natural Heritage Program (Lundgren and Smith, 2010) and the Water Quality Unit which are considered part of the master plan; these are:

- Monitoring the lake for water quality issues and aquatic invasive species.
- Maintain a buffer of 30 meters (100 feet) or more of natural vegetation from the lakeshore or from wetlands adjacent to the lake wherever possible.
- Prohibiting motorized boats, fish stocking, and chemical treatments, and,
- Providing education on ways to prevent the spread of invasive exotic species into the lake, such as cleaning off boats and boots prior to accessing the lake and providing a boat cleaning station at the lake access point.

White Lily Pond is outside of the park therefore cannot be designated.

Comment: Ecological impact of campground

The opinion was expressed that a newly proposed campground on Long Pond represents the one largest potential impact to important biodiversity features of the park.

Response:

The new camping area has been moved to the area north of the beach and along the water tower road. The new location will result in reduced environmental impacts as discussed on pp. 68, 69, 74, 75 and 78.

Comment: Ecological impacts and alternatives

Comment was made concerning several factors, including forest cover, important ecological communities, roadedness, real property/land ownership, forest maturity and ecological rehabilitation, rare species, invasive species and forest/wildlife corridors.

Response:

In general this comment includes a number of details that are covered in sections of the master plan and contains a number of details that are more relevant to site specific management plans. Specifically concerning forest maturity, OPRHP's tree policy does address the concept of allowing forests to mature and these goals are also provided in the introductory sections of the master plan.

Hunting

Comment: Hunting area boundaries

Interest was expressed to know the details of modification of the boundaries to the hunting area.

Response:

The hunting restriction area will change when the installation of new recreational facilities makes that necessary. Information of these changes will be available at the park and will be distributed to individuals applying for hunting permits.

Trails

Comment: Trails Plan Support

Comments were received supporting various aspects of Appendix B – Trails Plan.

Response:

Your comment is noted

Comment: Support for new trails

Support was expressed for new trails that will provide new recreation opportunities such as single track and loops of varying lengths.

Response:

The Trails Plan includes new varied opportunities such as the development of the Dunham Hill Trail and the Beechnut Trail as single track. New loop trail opportunities include the Fruit Loop Trail, White Lily Trail with Beechnut Trail, and a few shorter family loop trails in proximity to the high-use beach area.

Comment: Proper Trail Siting

Concern was expressed that undesignated trails may cause erosion and disturb ecological communities and support was expressed for designating properly sited trails and closing improper ones.

Response:

The Trails Plan included an assessment of all trails in the park. The plan calls for closure of 1.7 miles of trail most of which is considered unsustainable. New trail construction will follow the policies and guidelines for trail building that have been established by recognized trail organizations and government agencies (refer to Appendix 1 of the Trails Plan). Adherence to these guidelines will assure that work is completed in a manner that maximizes protection of park resources.

Comment: Winter Use of the Chet Bell Trail

Concern was expressed that the plan called for removal of snowmobiling on the Chet Bell Trail. It was noted that the Chet Bell Trail is an important connector from Fire Tower trail to C9 as a loop trail, and that loop trails provide use to family and young riders who enjoy park trails for short rides for family leisure who do not wish to venture further down the trail system and outside of the park. It was noted that this will not adversely affect other users as this trail is only accessible by the above mentioned connector trails that permit snowmobile use.

Response:

Upon further consideration, the Chet Bell Trail will remain open for snowmobile use and will accommodate all winter trail uses allowed in the park. The Alternative table on pages B-19 and 20 and Figures 9 and 11 of the Trails Plan have been modified to reflect this decision.

Comment: Fruit Loop Trail

A comment noted that it was not clear in the Trails Plan whether the Fruit Loop Trail would be open to snowmobile use, and that if it was open to snowmobiles, it would create an additional loop trail with the above mentioned benefits for families.

Response:

The majority of the Fruit Loop Trail will not be designated for snowmobile use. All of the park located south of Route 2 will now be considered a Park Preservation Area excluding the C9 snowmobile corridor. The short northern section of the Fruit Loop Trail located between Route 2 and the Gartler's Trail overlaps with the C9 corridor, and it will continue to be designated for snowmobiling as well as other winter trail uses.

Comment: Upgrade the Network of Trails

Support was expressed to invest in resources and efforts to upgrade, improve and expand the network of sustainable multi-use trails in the park and to improve trail maintenance.

Response:

The Trails Plan provides specific trail maintenance recommendations for each trail in the park and Phase I priority trail projects (page B-29) to help focus available resources to upgrading, improving and expanding the trail system. OPRHP will continue to work closely with and enhance relationships with volunteer groups to help develop and maintain the trail system. As funds are made available, improvements will be made by OPRHP. Trail groups may also provide funding or other resources to make improvements to trails.

Comment: External Connections

A comment suggested that there should be a proposal put forth to Rensselaer Polytechnic Institute's (RPI) real estate division to develop a conservation easement that would allow a corridor and multi use trail to be constructed and maintained on the RPI property for recreational connections to Pittstown State Forest. It was noted that Long Pond Road Extension and Ward's Hollow Road are unsuitable for connections to Pittstown State Forest and that new well designed trails should be implemented instead.

Response:

OPRHP is willing to work with RPI to explore trail easement opportunities to provide a new connection between the park and Pittstown State Forest. Note that OPRHP policy is to acquire property from willing sellers only, including conservation easements.

Comment: Trail Connection to Grafton

A recommendation was made for a foot trail to lead people into the community in Grafton. Presently, people on foot need to walk on Long Pond Road which is very narrow between the Park property and Owen Road. This trail would need to be located on private property and an easement would probably be needed for permanency.

Response:

Development of a hiking trail on private property is beyond the purview of this master plan. OPRHP is willing to work with the Town to have "Share the Road" signs posted along this section of Long Pond Road.

Comment: Trail construction and priorities

Move forward as soon as feasible to construct the proposed new trails and set up a timeline for the execution of different phases of the draft master plan with the intent of prioritizing activities to achieve short term goals and garner public support. The following goals would be first priority for implementation:

1. Trail maintenance and upgrades to existing trails to fix erosion.
2. Upgrades and repairs to existing physical plant/facilities.
3. Construction of new trails for multiple users.
4. Design/construction of new nature center.

Response:

Rehabilitation and maintenance of existing park facilities has been added to Priority 1 in the implementation table (pages xix and 65).

Comment: Signage at RPI property

In favor of more signage to identify when exiting the park onto RPI property.

Response:

The agency posts the boundary line of all state parks, including Grafton Lakes State Park. It is also the responsibility of adjacent neighbors to post their property. That notwithstanding, signs and/or gates are placed on trails wherever the park boundary is reached.

Persons/Organizations Who Provided Comments

(Listed alphabetically by last name)

Name	Title	Organization
Donna Baldwin	Captain	Grafton Rescue Squad
Paul Bouchey		General Public
Alex Brooks		General Public
Stan Brownell	Vice Chair	Rensselaer County Legislature
David Buckley		General Public
Rosie Carelli		General Public
Bernard Cognon	Representing	Albany Astronomy Association
Jim de Waal Malefyt		General Public
David Fry		General Public
Jill S. Fry		General Public
Steve Godlewski	President	Saratoga Mountain Bike Association
Lester Goodermote	Member	Rensselaer County Legislature
James Goyer	Fire Chief	Grafton Volunteer Fire Department
Rick Goyer		General Public
Herb Hasbrouck	Highway Superintendant	Town of Grafton
Cathy Hewitt		General Public
Helen Hemendinger		General Public
David Hunt		General Public
Anne Kiely		General Public
Tom Kiely		Grafton Trail Blazers
Viola Leskinen		General Public
Sarah Longacker		General Public
Barbara Messenger	Member	Grafton Town Council
John Nash		General Public
William Nugent, Jr.		General Public
Dan O'Brien		General Public
David Pisaneschi	Conservation Chair	Adirondack Mountain Club
Kathy Prather		General Public

Name	Title	Organization
Chris Roe	Board Member	Friends of Grafton Lakes State Park and
	Organizer	Capitol MTB Association
Rob Swider		General Public
Rick Ungaro	Member (elect)	Grafton Town Council
Linda von der Heide	Principal Planner	Rensselaer County
Sandy (no last name given)		General Public

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Vicinity

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 1

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Kautz Hollow Road

Ward Hollow

Couch Hollow

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Nugent Road

Quacken Kill

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Owen Road

Foster Road

Shaver Pond Stream

Main Entrance

Mill Pond Stream

Lake Elizabeth

Old Road

Steve Odell Road

Johnson Road

Dunham Reservoir

Quacken Kill

Cranberry Pond Road

Carl Dippolos Way

Town of GRAFTON

Dunham Road

Gravel Pond

Wapiti Way

Willetts Way

South Long Pond Road

Kussler Way

Mud Pond

Forest Lake

Dyken Pond Road

Dyken Pond Environmental Center

Cranberry Pond

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- town boundary
- roads
- state road
- streams
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- water

Grafton Lakes State Park

Boundary

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 2

Landcover Legend

- developed, high intensity
- developed, medium intensity
- developed, low intensity
- developed, open space
- cropland
- pasture/hay/grassland
- forest
- shrub/scrub
- wetland
- bare land
- open water

Legend

- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- Grafton Lakes State Park
- town boundary
- roads
- state road

MILES
0 0.25 0.5 1 1.5 2

Landcover

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 3

Legend

- Rennselaer Plateau
- town boundary
- interstate
- highway
- road
- water
- Grafton Lakes State Park

Rensselaer County elevation

2750 feet above sea level

0 feet above sea level

Rensselaer Plateau elevation 500 - 2090 feet

VERMONT

MASSACHUSETTS

WASHINGTON COUNTY

RENSSELAER COUNTY

COLUMBIA COUNTY

Stillwater · Valley Falls · Hoosick Falls · Waterford · Green Island · Colonie · Menands · Poestenkill · Grafton · Petersburg · Cropseyville · East Nassau · Nassau · Ravena · Schodack Landing

Hudson River · Mohawk River · Tomhannock Reservoir · Dyken Pond · Glass Lake · Burden Lake · Nassau Lake · Snyders Lake · Kinderhook Lake · Houst River

Babcock Lake Rd. · Taconic Lake Rd. · Plank Rd. · Dutch Church Rd. · Taborton Rd.

MILES

0 1.5 3 6 9 12

Grafton Lakes State Park

Rensselaer Plateau

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 4

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Kautz Hollow Road

Couch Hollow

Fire Tower Road

Dickinson Hill

Long Pond

Long Pond Road

Second Pond

Shaver Pond

White Lily Pond

Blodock Lake Road

Nugent Road

Quacken Kill

Mill Pond

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Main Entrance

Owen Road

Lake Elizabeth

Foster Road

Shaver Pond Stream

Old Road

Mill Pond Stream

Steve Odell Road

Taconic Lake Road

Johnson Road

Dunham Reservoir

Cranberry Pond Road

Carl Dippolos Way

Town of GRAFTON

Dunham Road

Cranberry Pond

Gravel Pond

Mud Pond

Willetts Way

South Long Pond Road

Kussler Way

Dyken Pond

Forest Lake

Dyken Pond Environmental Center

Dyken Pond Road

Legend

- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- Grafton Lakes State Park
- town boundary
- roads
- state road
- stream
- buildings
- beach
- parking lot
- DEC land
- other public land
- water

Surficial Geology

- Thrust fault..sawteeth
- Fault trace with no other information
- kame deposits
- bedrock
- till

MILES

0 0.25 0.5 1 1.5 2

Grafton Lakes State Park

Surficial Geology

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 5

Town of PITTSTOWN

Town of GRAFTON

Pittstown State Forest

State Fire Lane

Babcock Lake

Kaufe Hollow Road

Couch Hollow

Wood Hollow

Fire Tower Road

Dickinson Hill

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Nugent Road

Quacken Kill

Winter Entrance

Graton Lake State Park Way

Shaver Pond Road

Foster Road

Shaver Pond Stream

Main Entrance

Owen Road

Lake Elizabeth

Old Road

Mill Pond Stream

Steve Odell Road

Johnson Road

Dunham Reservoir

Cranberry Pond Road

Taconic Lake Road

Earl Dippolos Way

Cranberry Pond

Gravel Pond

Wapiki Way

Willetts Way

South Long Pond Road

Kussler Way

Mud Pond

Dyken Pond

Forest Lake

Dyken Pond Road

Dyken Pond Environmental Center

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- 20 foot contour
- 100 foot index contour
- town boundary
- roads
- state road
- stream
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- water

Grafton Lakes State Park

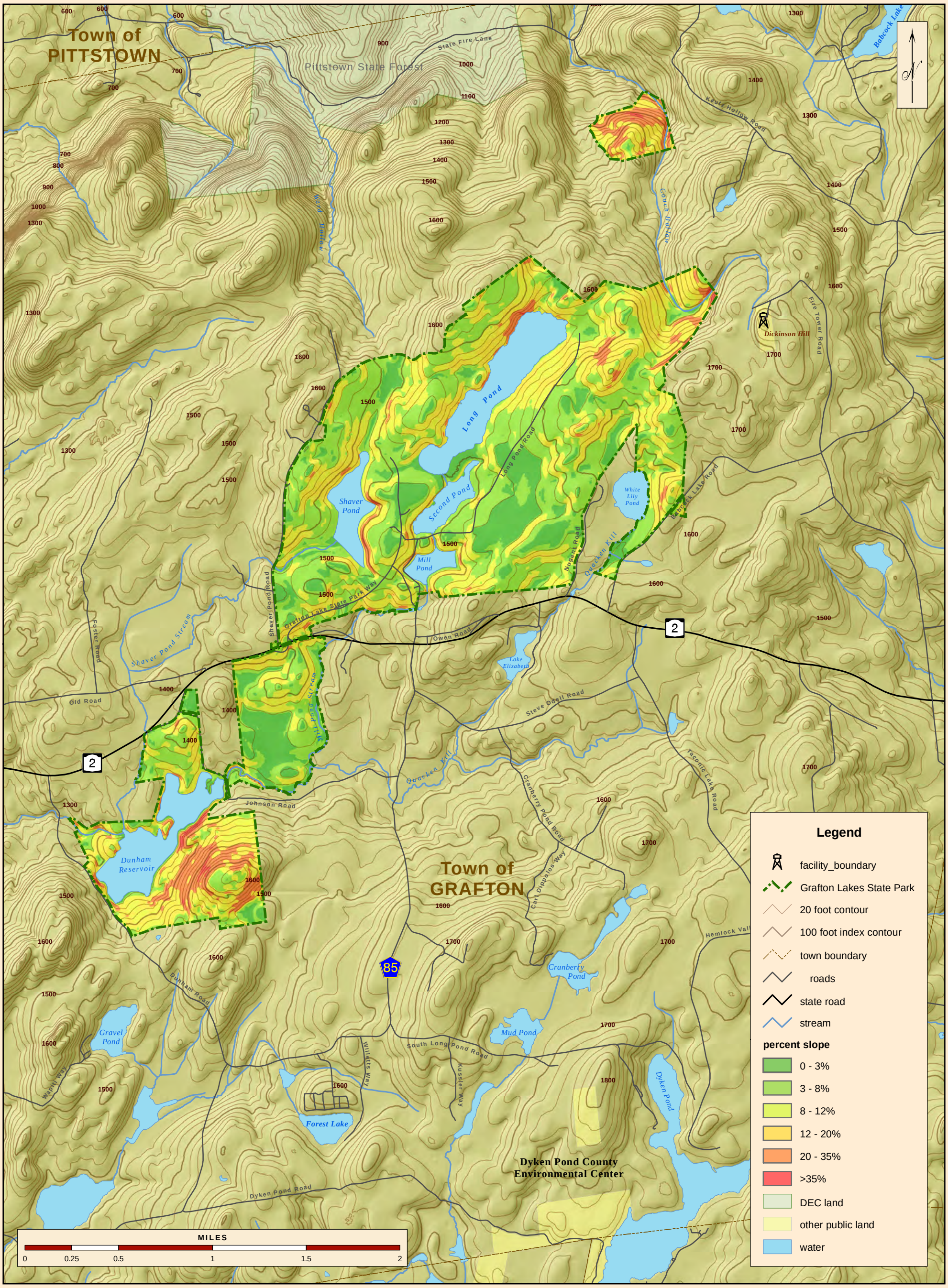
Topography

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 6



Slope Analysis

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 7

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Kautz Hollow Road

Ward Hollow

Couch Hollow

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Bedrock Lake Road

Nugent Road

Mill Pond

Quacken Kill

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Foster Road

Shaver Pond Stream

Owen Road

Main Entrance

Mill Pond Stream

Lake Elizabeth

Old Road

Steve Odell Road

Johnson Road

Dunham Reservoir

Town of GRAFTON

Cranberry Pond Road

Carl Dippolos Way

Dunham Road

Gravel Pond

Willetts Way

South Long Pond Road

Kussler Way

Cranberry Pond

Mud Pond

Forest Lake

Dyken Pond

Dyken Pond Road

Dyken Pond Environmental Center

Soils

- Brayton
- Buckland
- Glover
- Loxley and Beseman mucks
- Water

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- Grafton Lakes State Park
- town boundary
- roads
- state road
- stream
- beach
- parking lot
- buildings
- DEC land
- other public land
- water

Grafton Lakes State Park

Soils

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 8

Watershed & Drainage Basin

- DEC watershed boundary

interpolated drainage basins

- Long Pond
- Second / Mill Pond
- Dunham Reservoir
- Shaver Pond
- White Lily Pond
- DEC land

Town of

Pittstown State Forest

State Fire Lane

Babcock

Kautz Hollow Road

Ward Hollow

Couch Hollow

Hoosic River Watershed

Poestenkill Watershed

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

Mill Pond

White Lily Pond

Quacker Kill

Jewett Road

Grafton Lake State Park Way

Winter Entrance

Main Entrance

Owen Road

Lake Elizabeth

Steve Odell Road

Shaver Pond Road

Forest Road

Shaver Pond Stream

Mill Pond Stream

Old Road

Johnson Road

Dunham Reservoir

Cranberry Pond Road

Pacific Lake Road

Old Dipplos Way

Hemlock Valley Way

Poestenkill Watershed

Little Hoosic River Watershed

Town of GRAFTON

Dunham Road

Gravel Pond

Cranberry Pond

Mud Pond

Willetts Way

South Long Pond Road

Kussler Way

Wapiti Way

Forest Lake

Dyken Pond

Dyken Pond Road

Dyken Pond Environmental Center

MILES

0 0.25 0.5 1 1.5 2

Legend

- Grafton Lakes State Park
- town boundary
- 20 ft contour
- 100 ft index
- roads
- state road
- stream
- beach
- parking lot
- buildings
- DEC land
- other public land
- water

Grafton Lakes State Park

Watersheds and Drainage Basins

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, October 3, 2011.

Master Plan

Figure 9

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Babcock Lake

Kautz Hollow Road

Ward Hollow

Couch Hollow

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Nugent Road

Quacken Kill

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Owen Road

Foster Road

Shaver Pond Stream

Main Entrance

Mill Pond Stream

Lake Elizabeth

Steve Odell Road

Old Road

Johnson Road

Dunham Reservoir

Quacken Kill

Cranberry Pond Road

Taconic Lake Road

Carl Dippolos Way

Town of GRAFTON

Dunham Road

Gravel Pond

Cranberry Pond

Mud Pond

Wapiti Way

Willetts Way

South Long Pond Road

Kussler Way

Dyken Pond

Forest Lake

Dyken Pond Road

Dyken Pond Environmental Center

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- boat launch
- canoe portage
- parking
- parkoffice
- dams
- town boundary
- roads
- state road
- stream
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- water

Grafton Lakes State Park

Water Resources

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 10

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Babcock Lake

Kautz Hollow Road

Ward Hollow

Couch Hollow

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Nugent Road

Quacken Kill

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Owen Road

Foster Road

Shaver Pond Stream

Main Entrance

Mill Pond Stream

Lake Elizabeth

Steve Odell Road

Old Road

Johnson Road

Dunham Reservoir

Quacken Kill

Cranberry Pond Road

Taconic Lake Road

Carl Dippolos Way

Town of GRAFTON

Dunham Road

Gravel Pond

Cranberry Pond

Mud Pond

Wapiti Way

Willetts Way

South Long Pond Road

Kussler Way

Dyken Pond

Forest Lake

Dyken Pond Road

Dyken Pond Environmental Center

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- boat launch
- canoe portage
- parking
- parkoffice
- dams
- town boundary
- roads
- state road
- stream
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- water

Grafton Lakes State Park

Water Resources

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 10

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Babcock Lake

Kautz Hollow Road

Ward Hollow

Couch Hollow

Dickinson Hill

Fire Tower Road

Long Pond

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Quacken Kill

Shaver Pond Road

Grafton Lakes State Park Way

Foster Road

Shaver Pond Stream

Owen Road

Lake Elizabeth

Old Road

Steve Odell Road

Mill Pond Stream

Taconic Lake Road

Johnson Road

Dunham Reservoir

Town of GRAFTON

Cranberry Pond Road

Carl Dippolos Way

Cranberry Pond

Dunham Road

Gravel Pond

Wapiti Way

Willetts Way

South Long Pond Road

Kussler Way

Mud Pond

Dyken Pond

Forest Lake

Dyken Pond County Environmental Center

Dyken Pond Road

Classification based on "Ecological Communities of New York State" by Edinger et al. 2002. Coverage based on field data and orthoimagery interpretation by NYNHP and OPRHP

MILES

0 0.25 0.5 1 1.5 2

Legend

- firetower
- Grafton Lakes State Park
- town boundary
- roads
- state highway
- stream
- DEC land
- other public land
- water

Ecological Communities

- Beech-maple mesic forest
- Conifer plantation
- Deep emergent marsh
- Developed
- Eutrophic pond
- Hemlock-northern hardwood forest
- Midreach stream
- Oligotrophic dimictic lake
- Red maple-hardwood swamp
- Reservoir/artificial impoundment
- Shallow emergent marsh
- Shrub swamp
- Spruce-fir swamp
- Spruce-northern hardwood forest
- Successional northern hardwoods
- Successional old field
- Successional shrubland

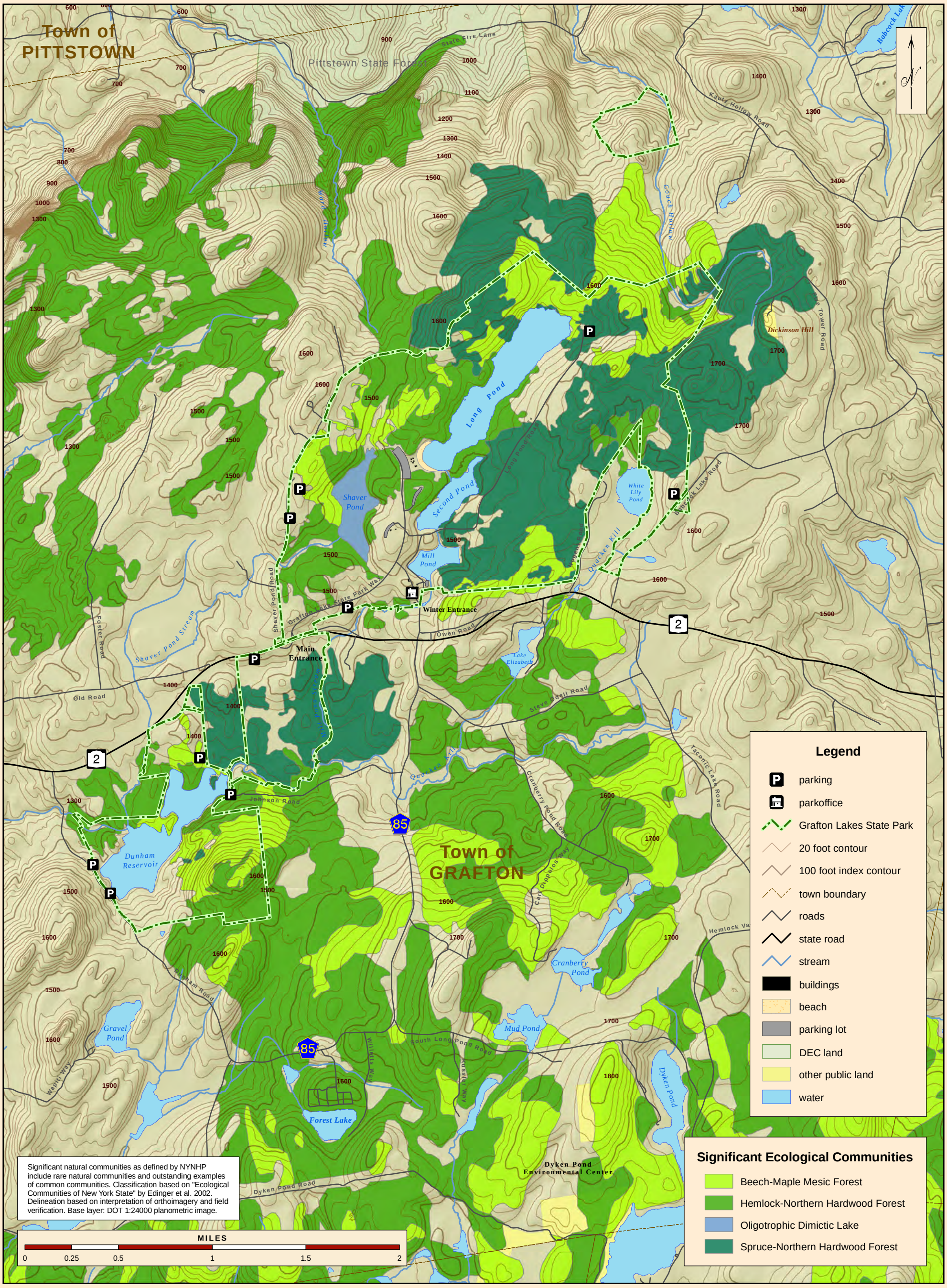
Ecological Communities

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 12



Significant Communities

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 13

Town of PITTSTOWN

Pittstown State Forest

State Fire Lane

Kautz Hollow Road

Ward Hollow

Couch Hollow

Fire Tower Road

Dickinson Hill

Long Pond

Granville Hicks Cemetary

Frances West Cemetary

Thomas West Cemetary

Long Pond Road

Shaver Pond

Second Pond

White Lily Pond

Babcock Lake Road

Mill Pond

Nugent Road

Quacken Kill

Snyder Cemetary

Shaver Pond Road

Grafton Lake State Park Way

Winter Entrance

Foster Road

Shaver Pond Stream

Owen Road

Main Entrance

Lake Elizabeth

Mill Pond Stream

Steve Odell Road

Old Road

Johnson Road

Dunham Reservoir

Town of GRAFTON

Cranberry Pond Road

Carl Dippolios Way

Cranberry Pond

Dunham Road

Gravel Pond

Wapiti Way

Willetts Way

South Long Pond Road

Kussler Way

Mud Pond

Forest Lake

Dyken Pond Road

Dyken Pond Environmental Center

MILES

0 0.25 0.5 1 1.5 2

Legend

- fire tower
- cemetery
- restroom
- nature center
- parking
- parkoffice
- 360 degree scenic view
- scenic view
- town boundary
- roads
- state road
- stream
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- buffered cultural site
- water

Grafton Lakes State Park

Cultural/Scenic Resources

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 14

Legend

- fire tower
- bathhouse
- boat launch
- canoe portage
- concession
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- restroom
- swimming
- accessible
- biking
- equestrian
- fishing
- hiking
- playground
- snowmobiling
- snowshoeing
- xc skiing

- trails
- town boundary
- roads
- state road
- streams
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- other state land
- water

Pittstown State Forest
State Fire Lane
Kautz Hollow Road
Ward Hollow
Couch Hollow
Fire Tower Road
Dickinson Hill
Long Pond
Long Pond Road
Shaver Pond
Second Pond
White Lily Pond
Babcock Lake Road
Mill Pond
Nugent Road
Quacken Kill
Shaver Pond Road
Grafton Lake State Park Way
Winter Entrance
Foster Road
Shaver Pond Stream
Main Entrance
Mill Pond Stream
Old Road
Johnson Road
Dunham Reservoir
Dunham Road
Gravel Pond
Wapiti Way
Forest Lake
Dyken Pond Road

MILES
0 0.25 0.5 1 1.5 2

LONG POND
SECOND POND
SHAVER POND
MILL POND
Rabbit Run
Deerfield
Maintenance
Park Office

Feet
0 375 750 1,500

Grafton Lakes State Park

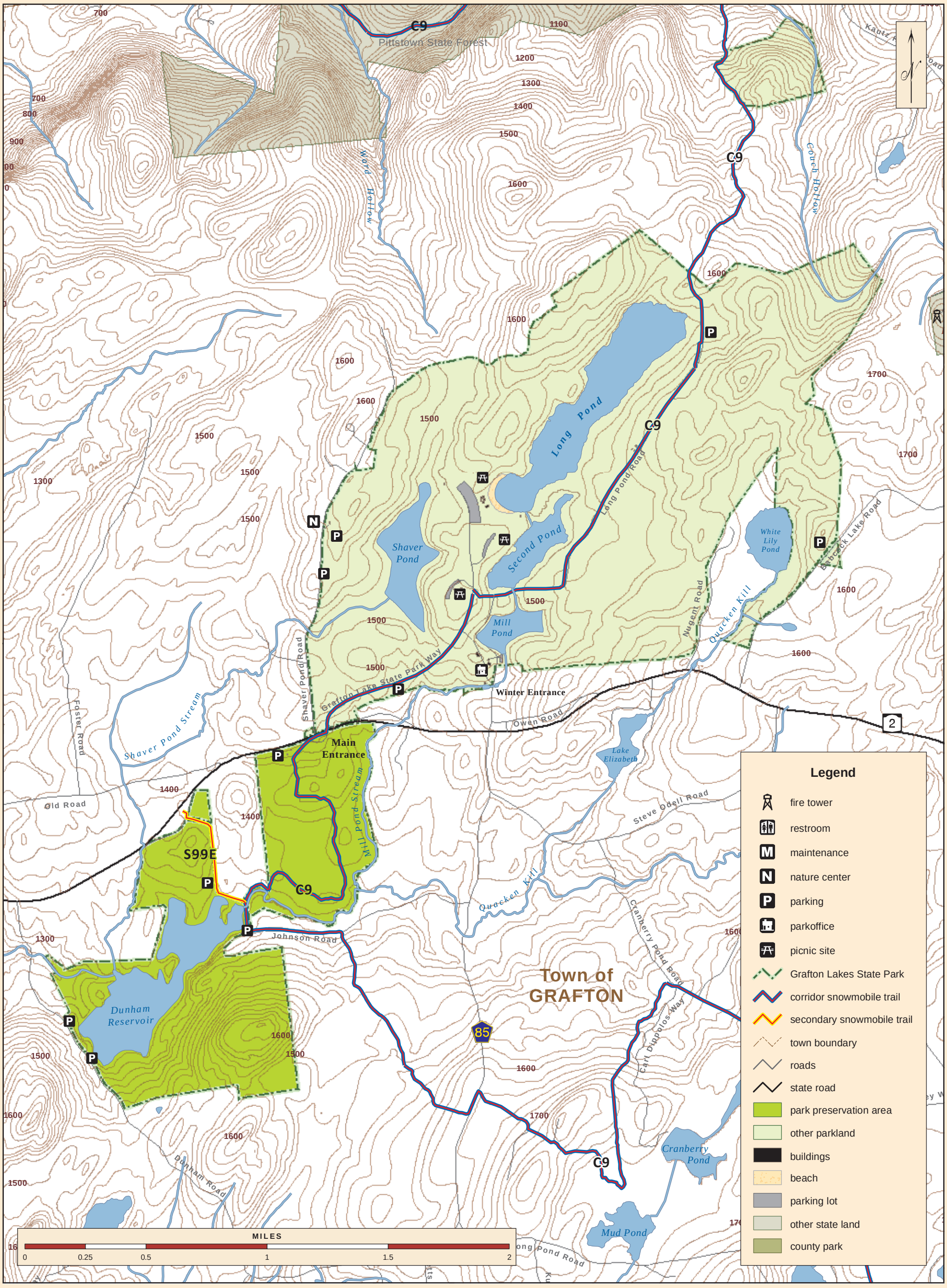
Recreation Resources

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, May 31, 2011.

Master Plan

Figure 15



Park Preservation Area

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, October 17, 2011.

Master Plan

Figure 16

Raingardens installed as part of Stormwater Management System.

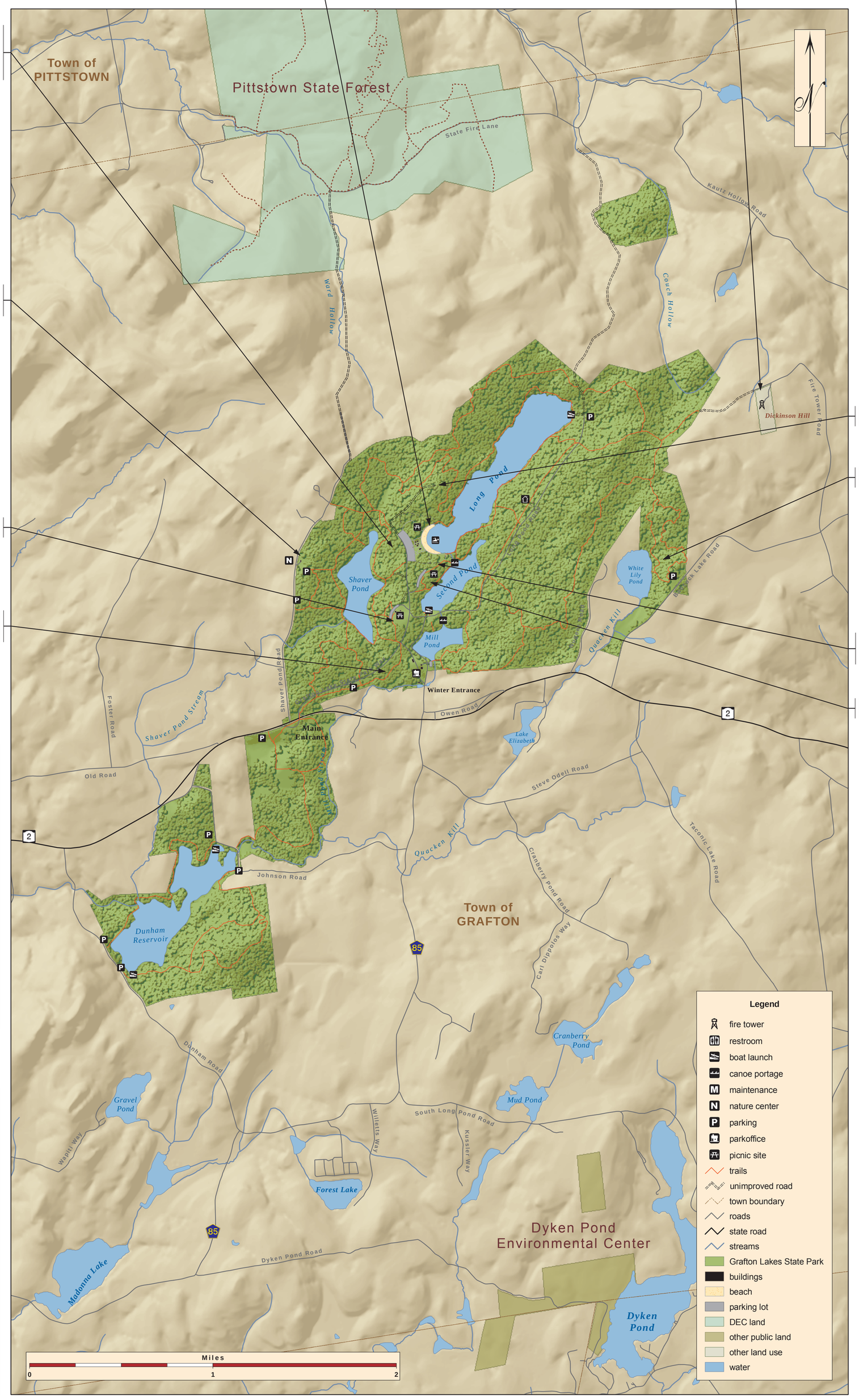
Dickinson Hill Fire Tower Rehabilitated.

Nature Center
- •Environmental Education
- •Amphitheater
- •Trail Head

Shaver Pond Nature Center to be renovated for other park uses.

New Pavilion at Deerfield

New Park Office and Camper Registration



New Camping Area with new playground

New Cabins

South Picnic Area to be rehabilitated and new playground added.

Full Basketball court at Rabbit Run.

RECREATION FACILITY and PROGRAMS

Picnic Groves
The north area will be dismantled and allowed to revert to natural community. The south area will be rehabilitated and a new playgournd will be added.

Picnic Pavilions/Tents
All large canopy tents will be replaced with permanent pavilions, a new pavilion will be installed at Deerfield.

Court and Field Games
A new full basketball court will be installed at Rabbit Run and Deerfield. A Bocce court will be installed at Deerfield.

Hunting and Fishing
Hunting and Fishing will continue to be allowed at the park under the existing regulations.

CULTURAL and SCENIC RESOURCE PROTECTION

Cemeteries
The park will proceed with the recommendations made by the State Historic Preservation Office.

Dickinson Hill Fire Tower
The tower will continue to be restored and, when completed, will be open for public access.

Views
A comprehensive scenic resource management plan will be developed for the fire tower, lake shorelines and hilltop views.

The park, the region and the agency will maintain a policy of commenting on and protecting the park from development outside the park which may negatively impace the scenic resources.

Legend
- fire tower
- restroom
- boat launch
- canoe portage
- maintenance
- nature center
- parking
- parkoffice
- picnic site
- trails
- unimproved road
- town boundary
- roads
- state road
- streams
- Grafton Lakes State Park
- buildings
- beach
- parking lot
- DEC land
- other public land
- other land use
- water

NATURAL RESOURCE PROTECTION

Park Preservation Area
A Park Preservation Area (PPA) will be created for the parkland south of NYS Route 2.

Bird Conservation Area
A Bird Conservation Area will be created including the entire park.

Lake Water Quality
A systematic regular monitoring program of water quality and nutrient loading in all the park's lakes will be developed and implemented.

Stormwater Runoff
Beach Area. The existing trench drain system will be rehabilitated and upgraded to drain into a new system of raingardens.

Invasive Species Management
An ISPZ will be created for the entire park. The Park's lakes will be included in the Invasives Species Prevention Zone (ISPZ). Power washing stations will be installed at the control point and the Long Pond boat launch. Invasive species disposal bins will be installed at all boat launches.

Rare,Threatened and Endangered Species
Guidelines will be established based on NHP reports and DEC recommendations.

Reduced Mowing
The existing reduced mowing protocol at the park will be continued. Other lawn areas will be added to the program as appropriate.

Master Plan

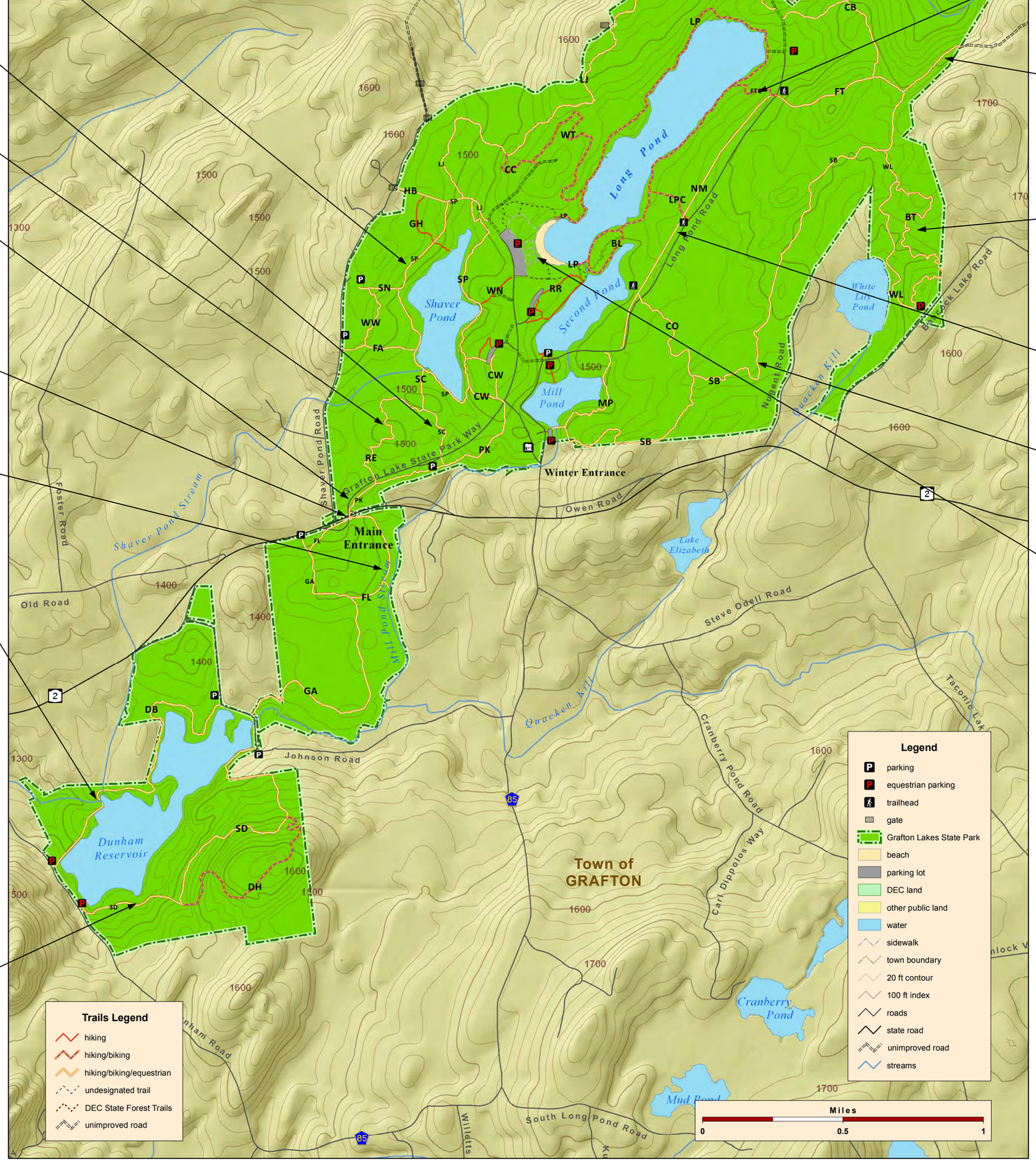
Grafton Lakes State Park

Map Produced by NYS OPRHP GIS Unit, January 5, 2012.

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

General
•Maintain the trail system for designated uses including hiking, biking, horseback riding, snowshoeing, cross-country skiing and snowmobiling.
•Improve trail signage including trailhead and trail intersection signage throughout the park to enhance the visitor experience and increase patron safety.
•Improve the trail system through upgrades or reroutes for unsustainable sections of trail.
•Enhance interpretation of natural, cultural and historical resources along trails.
•Continue and expand coordination with volunteer groups for the development and maintenance of the trail system.
•Maintain and enhance connections to external trail systems and communities.

Winter Trail Use
•Install signage for winter use of trails to improve visitor circulation and trail etiquette (i.e. snowshoes required for winter hiking, cross-country skiers to the right and snowshoers to the left).
•New nature center (see master plan) will act as a warming hut for winter uses.
•Mill Pond parking lot will be designated for non-motorized uses only.



Shaver Pond
•Upgrade trail to meet federal accessibility guidelines as is feasible in conjunction with trail connection to future nature center (see master plan).
•Construct a viewing platform at the base of the Granville Hicks Trail for scenic vista and protection of shoreline resources.
•Install educational signage regarding invasive species including for proper disposal of horse droppings.

Scout Trail
•Reroute eroded section of trail.

Red Eft Trail
•Reroute western section of trail to connect into extension of Perkins Trail.

Perkins Trail
•Extend trail to Route 2 crossing.

Route 2 crossing
•Install trail crossing markings and signage to improve connections between north and south trail systems.

Fruit Loop Trail
•Construct trail to create loop with Gartler's Trail. Provide connection across Route 2 to Perkins Trail and spur trail to Trail Riders' parcel.

Double Bit Path
•Conduct feasibility study for reservoir outlet trail crossing.

South Dunham Trail
•Remove snowmobile use from trail.
•Reroute southern section of trail to connect into parking lot at southern end of reservoir.
•Construct Dunham Hill trail to provide access to more park resources.

Little Johnny's Trail
•Construct bridge or boardwalk at stream/wetland crossing.

Fire Tower Connector Trail
•Reroute trail with more sustainable alignment.
•Install directional signage for Fire Tower when opened.

Fire Tower Trail
•Request town abandonment of Fire Tower Road within the park.
•Install a fence and gate at the park boundary.
•Work with town to address major drainage issues near park boundary.

White Lily Pond Area
•Develop White Lily Trail for all designated trail uses.
•Develop Beechnut Trail for non-motorized designated trail uses.
•Expand parking area for trailer parking in conjunction with development of cabins (see master plan).
•Research feasibility and appropriate location for development of a bird viewing platform or boardwalk adjacent to pond.

NIMO Trail
•Extend the snowmobile trail along power line from NIMO Trail to existing park office/ shop. Move S99 off of Long Pond Road.
•Improve treadway through fill and culvert installation to accommodate all designated uses including snowmobiling. Move C9 off of Long Pond Road.

Spruce Bog Trail
•Further assess trail alignment for eastern section of reroute.

Day-Use Area
•Develop three loop trails to accommodate high use of area and enhance use for families with children and for persons with varying abilities.
•Improve directional and trailhead signage in area to better promote use of the trail system.

Equestrians
•Install signage stating no equestrian trailer parking at beach parking lot during summer season.
•Install hitching posts at various locations throughout the park to accommodate equestrian users.
•Develop trailer parking at the South Dunham trailhead along Dunham Road and at White Lily Pond in conjunction with trail development.
•Relocate spur trail to Trail Riders' parcel out of wetland area.

Water Trail
•Enhance signage and maps to promote use of the water trail consisting of Long, Second and Mill Ponds.
•Install boat washing stations and educational information regarding aquatic invasive species.

Trails Plan

Grafton Lakes State Park

Map Produced by NYSOPRHP GIS Unit, December 20, 2011

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

Final Master Plan/
Final Environmental Impact Statement

For

Grafton Lakes State Park

January 25, 2012

Appendices

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

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List of Appendices

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A. Appendix A - Analysis and Alternatives

List of Figures

Introduction

This appendix contains the results of the planning team discussions on natural resource protection, recreation resource development and operations proposed for the park. Each proposal is analyzed using the inventory information (Chapters 2 and 3), park goals, and other factors. Projects or activities in place at the park will be assessed for their compatibility with recreation uses and resource protection. Any facility or activity that may result in adverse effects will be identified, and approaches to mitigation applied to if not eliminate then minimize adverse impacts. The analysis results in considerations as to the appropriateness of each alternative for the park. Findings from this analysis are used in identifying preferred alternatives for each of the resource categories. The status quo, alternatives, considerations and preferred alternative for individual issues are described in tabular form.

A complete description of the park master plan that results from these preferred alternatives is found in Chapter 6 of this document.

Resource Analysis and Alternatives

Natural Resource Protection Strategies/Management

Park Preserve/Preservation Area

Article 20 of the Parks, Recreation and Historic Preservation Law, also known as the "Park Preserve Law", allows the Commissioner of OPRHP to designate park land as part of a Park Preserve System. This law applies only to lands under the jurisdiction of OPRHP. Designations of park land into the Park Preserve System are being considered within the master plan process. The law outlines the process for designation of entire parks or portions of parks as part of a statewide park preserve system. Portions of parks may be designated as Park Preservation Areas (PPAs).

Background for Analysis:
Grafton Lakes State Park contains several areas of significant ecological communities (Figure 13). Most of these areas are part of the greater forested areas of the Rensselaer Plateau. The recreation resources at the park are concentrated in a central area, leaving the rest of the park mostly undeveloped except for roads and trails.

Part of the park's trail system is a component of the state snowmobile trail system. This includes a major north-south route (C9) and several east-west off shoots of that route. The trail system is described in detail in Appendix B, the trails plan.

The Park Preserve Law (PRHPL Law Article 20) provides for recognition of park land containing wildlife, flora, scenic, historical and archaeological sites that are unique and rare in New York State. Designating the Park as a preserve would provide legal protection to all of the park's resources—natural, scenic, historic and archeological. A park-wide designation comes with restricting the creation of developed areas. A developed area is considered any portion of the park that is paved or has another hard surface, or an area that contributes to the built environment of the park, or an area that is landscaped and not managed for habitat protection. This designation would also preclude moderate and high recreational use from occurring at the park. Existing compatible recreational uses can continue.

The designation of a Park Preservation Area would provide legal protection for the area of the park with the highest ecological value. It would entail everything stated in the aforementioned paragraph, but the restrictions to development are more inclusive and would apply only to the selected area.

Alternatives	Considerations
Alternative 1 Status Quo	No Park Preserve or Park Preservation Area will be created.
Alternative 2	
Designate the entire park as a Park Preserve	The level of development and type of activities in the park do not support the creation of a Park Preserve
Alternative 3	
Create a Park Preservation Area (PPA) in a selected area of the park.	Creates a PPA in Grafton Lakes State Park according to PRHPL section 20.
The selected area includes all parkland south of Rt 2 including Martin Dunham Reservoir.	Passive and low intensity recreational activities will be supported.
Exclude snowmobile routes C9 and S99E to provide continued availability of existing uses.	Existing active recreation can be excluded from the preservation area by providing buffered corridors to allow continued availability of existing uses.
Eliminate snowmobile route S99F. (Details of this removal and addition of snowmobile routes elsewhere in the park are available in the trails plan (Appendix B)).	
Alternative 4	
Same as alternative 3 but with the addition of a PPA in the watershed of Shaver Pond	Would afford additional protection to a sensitive ecological area.
	Existing and planned development reduce the area that can be designated so much that the PPA would not be effective or meet statewide criteria.

Preferred Alternative – Alternative 3
Alternative 3 affords a level of protection to a sensitive area of the park and allows continuation of existing active recreation uses. Figure 16 is a map of the proposed Park Preservation Area in Grafton Lakes State Park.

Bird Conservation Area (BCA)

The Bird Conservation Area (BCA) program aims to integrate bird conservation into agency planning, management and research projects, within the context of the agency mission. Bird Conservation Areas are described under Article 11, Title 20 of the Environmental Conservation Law (ECL). The creation of a BCA does not preclude existing or future land use proposals, nor should it prohibit park development or operational needs. In addition to recognizing the importance of bird conservation within the planning process, a BCA can create heightened public awareness of the site's important bird community, as well as funding opportunities for bird related education, research and conservation.

Background for Analysis:

There is currently no BCA within Grafton Lakes State Park. In order to qualify as a BCA, a site must meet at least one of the nine criteria outlined in the ECL. Following staff evaluation of the bird community and habitat as well as existing outside data, it was determined that the park meets three of the nine BCA criteria as shown below and that the entire park is eligible for a BCA.

Migratory Concentration Site – Primarily the forests, but also the shrublands and wetlands of Grafton Lakes State Park provide significant stopover habitat for migratory songbirds during both spring and fall migration. A minimum of 43 species of Neotropical migratory songbirds have been shown to use the park as a stopover location. (OPRHP 2011)

Diverse Species Concentration Site – The large extent of interior forest habitat at Grafton Lakes State Park, combined with a mix of other wetland and open canopy habitat types, attract a high diversity of bird species. Based on data from the NYS DEC and personal observations by park staff and qualified visitors, over 190 different species of birds have been observed within the park boundaries. (OPRHP 2011)

Species at Risk Site – The contiguous, high-quality forests found at Graton Lakes State Park are exception native habitats that support populations of rare bird species that are dependent on those very forests, making their preservation very important. Thirteen different species of rare birds, listed as either Threatened or of Special Concern as determined by the NYS DEC, have been shown to use the park. (OPRHP 2011)

Alternatives	Considerations
Alternative 1	
Status Quo	There will be no statewide recognition of the park and its importance to bird populations.
Alternative 2	
Create a BCA in selected areas of the park.	This will provide statewide recognition of the park's importance in selected areas but not the park as a whole. There are three different criteria within the BCA law that have been met at Grafton Lakes State Park. Delineation of areas for

Alternatives	Considerations
	each would be difficult at best.
Alternative 3	
Create a BCA covering the entire park.	This will provide statewide recognition of the importance of the park as a whole to bird populations. Site-specific recommendations for the different areas of the park will be developed as part of the BCA-required Management Guidance Summary.

Preferred Alternative – Alternative 3

This alternative provides the opportunity for greater recognition of the park as an important habitat for resident and migratory bird populations. This alternative also most easily responds to the best examples of bird habitat and responds to changes that may occur through natural processes. This alternative also recognizes that areas of the park that have been altered for intensive patron recreation and park operations still provide habitat and resources for many bird species, and therefore these areas should also be included as part of the BCA, with specific recommendations in the Management Guidance Summary to address the dual nature of these areas.

Lake Water Quality

Background for Analysis

The lake water quality in Grafton Lakes State Park varies from lake to lake. Water quality monitoring has been conducted in the lakes by the Water Quality Unit within the Environmental Management Bureau from 2002 through 2010. Based on this monitoring, a Lake Water Quality report (Husson, Lyons and Terbush, 2011) has been prepared. Information from this report and other studies is summarized in Table 3 of Chapter 3. The water quality monitoring results indicate that the lakes have good to excellent water quality, being located within watersheds that are mostly forested and relatively undeveloped. The few developed areas include the parking areas and the beach and bath house complex at the southern end of Long Pond. The park boundaries encompass the watersheds for almost all of the lakes except for portions of the Martin Dunham Reservoir and White Lily Pond watersheds. All of the lakes are mesotrophic or oligo-mesotrophic, except White Lily Pond, which is eutrophic. Plant survey results indicate a good balance of macrophyte biodiversity in all of the lakes. Current uses in all of the lakes are consistent with their trophic status.

However, a preliminary "desktop" analysis of nutrient carrying capacity of Long Pond (Hartney, 1981) indicated that the lake may be near the threshold for acceptable nutrient loading. This suggests that additional significant development requires close evaluation of nutrient inputs to ensure that water quality levels are maintained and protected.

Due to the importance of the water quality to recreation and natural resources, continued close monitoring and protection of all of the parks' lakes is recommended. Potential nutrient inputs associated with future development proposals should be closely evaluated to assure that they will not significantly adversely affect the water quality of the lakes. This is particularly important with respect to Long and Shaver Ponds as they are key recreational and scenic resources within the park.

The Lake report also indicates a need for a study of White Lily Pond to determine if its eutrophic status is due to natural or cultural reasons.

There is no current program of testing in the lakes for nutrient loading. Long Pond is the only lake with a swimming beach and is considered to have good water quality for contact recreation, boating and fishing. The beach on Long Pond is tested weekly for *E. coli* as per the State Sanitary Code.

Preferred Alternative – Status Quo.

Routine water quality monitoring on all the ponds in the park by the Water Quality Unit will continue.

Long Pond is affected by the presence of the beach activity at the southern end. Long Pond may be affected if a camping area is established in its watershed (see analysis of Camping in this appendix), and the Shaver Pond watershed could be affected by development of a proposed Nature Center. Due to concerns that introduction of substantial new development within the watersheds of the park's ponds could lead to undesirable changes in trophic status, a meeting was held with NYS DEC. The general consensus of the meeting was that impacts on lake water quality would not be substantially large if development plans included proper design of wastewater treatment, satisfactory setback from the lake's shoreline, and only modest increase in patron use. Nutrient monitoring will be conducted on all of the lakes in 2011 to establish the current levels of nutrients in the lakes. Additional nutrient monitoring will be conducted periodically following construction of new facilities to confirm that there are no impacts and address impacts if they occur. In addition, an analysis of possible increases in nutrient loading from proposed new developments will be initiated using an up to date nutrient loading model recommended by DEC.

White Lily Pond will be studied more closely to determine if its eutrophic status is natural or man-made.

Stormwater Runoff

The US EPA defines stormwater runoff in this way: "Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater runoff from naturally soaking into the ground." This rush of water over the ground poses several environmental problems 1) stormwater runoff typically flows over developed areas where it can often pick up pollution such as chemicals, excess nutrients, or litter, carrying them to nearby waterbodies, 2) stormwater runoff can also transport sediment such as sand and gravel from upland areas to nearby waterbodies, 3) water flowing over hot pavement is often heated, leading to warmer water conditions at the outlet, and 4) stormwater runoff can increase the volume of water and the speed at which that water reaches the nearest waterbody, which can overwhelm those waterbodies, leading to erosion and flooding (EPA, 2011).

Beach Area

Background for Analysis:

The more impervious surfaces in an area, the more stormwater runoff is generated. In an area like Grafton Lakes State Park, relatively little area has been paved or made otherwise impervious, so stormwater runoff is not much of a problem. However, the concrete decking surrounding the bathhouse and the pathways leading to the beach on Long Pond do create a stormwater runoff problem that is creating an operations issue. Stormwater runoff from the deck and pathways flows freely down the pathways directly onto the beach. During heavy rain events, the large quantity of stormwater funneled down these paths and onto the beach allows the water to scour out sand from the beach, transporting it into the lake. This not only removes sand from the beach, requiring the park to purchase new sand and work to reposition the sand to fill in the eroded areas, but the lost sand that being transported into the lake has caused the sand to expand out into the lake beyond the swimming area. With each storm, this additional sand continues to expand into areas that are intended to be managed in a natural condition for wildlife habitat and activities such as fishing and boating.

A series of trench drains were constructed across the paths to intercept stormwater runoff before it crossed onto the beach. As designed, water flowing into these drains was then funneled through a series of subsurface catch basins and drainage pipes to an outlet. However, at some point these trench drains were filled in, allowing some stormwater runoff to bypass the drainage system. Since the catch basins and drainage pipes are still present, repair of the trench drains would restore this system to a functional state. This system solves the problem of erosion on the beach, but does little to address other issues that are likely associated with stormwater runoff at this location such as increased temperatures and increased overall stormwater speed and volume.

A "green infrastructure" approach would be to create a system, such as a series of rain gardens, where the stormwater runoff would be funneled into a highly porous area where it could infiltrate back into the ground. In such a system, any heated water would have time to cool off and the increased speed and volume of the runoff would be negated as the water slowly percolates through the soil, directly into the water table. The trench drains would be restored and directed into the rain gardens while the existing catch basins and drainage pipes could be incorporated as an overflow system in case the green infrastructure is overwhelmed in large storm events.

Alternatives	Considerations
Alternative 1	
Status Quo	Sand will continue to be washed away, causing operational and environmental problems. Impacts from heat and changes in water flow velocity and volume will continue.
Alternative 2	
Repair trench drains and reconnect to existing subsurface drainage.	Excess stormwater runoff will be funneled into the subsurface drainage system, away from the lake. Sand erosion caused by stormwater runoff will be greatly diminished. Excess flow volume and velocity as well as heat will impact outflow point.
Alternative 3	
Repair trench drains and connect to newly installed rain gardens. Utilize existing subsurface drainage system for overflow control. Raingardens will be constructed utilizing current drainage swales and low points in the existing lawn areas.	Excess stormwater runoff will be allowed to infiltrate through the soil, into the groundwater, not the lake. Depth to water table needs to be assessed. Sand erosion caused by stormwater runoff will be greatly diminished. Excess flow volume and velocity as well as heat will be greatly reduced as the stormwater runoff infiltrates into the soil. Green infrastructure practices such as rain gardens will take up some usable space in the lawn uphill from the beach. The rain gardens will be designed to be attractive gardens using native plantings of flowering plants and/or shade-providing trees. Rain gardens will require some specialized maintenance similar to maintaining an ornamental garden, but overall workload should not be more than proper routine maintenance required for traditional drainage infrastructure.

Preferred Alternative – Alternative 3 (pending assessment of existing depth to water table)

This alternative provides a solution to the beach sand erosion issue while also addressing the additional environmental impacts caused by excessive stormwater runoff. The area of lawn that will be taken up by this project will be in low areas that already collect water and are not optimal for patron use. These areas will be transformed into beautiful gardens capable of absorbing excess stormwater runoff. An educational display will accompany the installation to teach the public about this relatively novel technology.

Invasive Species Management

A statewide invasive species control program (ISCP) has been established in OPRHP with goals to preserve biodiversity and reduce the threat of invasive species to the quality of the natural, recreational, cultural, and interpretive resources within State parkland.

In November, 2010 and July, 2011 OPRHP staff from the statewide invasive species control program visited Grafton Lakes State Park and found a very low level of invasive species. The reports of those visits recommend creating an Invasive Species Prevention Zone (ISPZ) at the park. (O'Brien, 2011 and O'Brien, 2011a)

The NY Natural Heritage Program (NHP) survey report for Grafton Lakes State Park (Lundgren and Smith 2010) recognizes the potential for the appearance of non-native invasive species. The report recommends developing an Invasive Species Management Plan specific to the park as an aid to park staff and education for visitors to the park.

Due to the potential negative impacts that invasive species could have on the ecology of the Shaver Pond significant community, the NHP report (Lundgren and Smith, 2010) voices concern for the possibility of inadvertent introduction of invasive species to Shaver Pond. The report cites the important role that the education of visitors plays in the prevention of invasive species introduction.

Aquatic Invasive Species

Background for Analysis:

The (ISCP) reports specify that the most immediate threat comes from Eurasian watermilfoil (*Myriophyllum spicatum*). These populations are currently relatively small. Monitoring of the park's lakes and wetlands is being done to detect presence and spread of invasive aquatic flora and fauna species. The reports recommend further measures which are noted below in the analysis.

Alternatives	Considerations
Alternative 1	
Status Quo	Eurasian watermilfoil will most likely continue to spread to the point of impairing aesthetics, boating and swimming or to other lakes not currently infested.
Alternative 2	
Create an aquatic ISPZ for the park's lakes.	Boat launch entrances are not gated.
Install aquatic invasive species information at all boat launches and fishing access points.	Power washing all boats for invasives before entering the park's lakes.
Invasive species disposal bins will be installed at all launches.	Provides ability to respond to and control the invasive species before it causes major impairments.
Install power boat wash at park control point and at the Long Pond boat launch.	Potential control options include mechanical harvesting (hand or suction pulling), biological controls, use of benthic barriers, and other
Develop early detection/rapid response plan for aquatic invasives at the park.	

Visual surveys for aquatic plants and invasive species conducted annually. In particular, levels of invasives in Long Pond and Second Pond will be assessed. If invasives appear to be increasing, a more detailed survey will be conducted. Based on the survey results, management recommendations will be made and implemented immediately.	methods.

Preferred Alternative – Alternative 2

The presence of aquatic invasives in the lakes should initiate a more stringent approach to aquatic invasives at the park. Involvement of boaters and fishers will improve chances of preventing the spread of invasives into the park's other lakes from internal and external sources. Installing power washers at critical points will help boaters prevent the spread of aquatic invasives in and out of the park.

Terrestrial Invasive Species

Background for Analysis:

Recent assessments by park staff (O'Brien, 2011 and O'Brien, 2011a) of trails and other areas in spring and summer of 2011 revealed no large instances of invasive plant or animal species. Only small numbers of seven terrestrial invasive species were found in the park, including spotted knapweed, multiflora rose, bush honeysuckle, Japanese barberry, garlic mustard, and common reed. Because the park is relatively free of wide spread infestations, the recommendation was made to delineate an invasive species prevention zone at the park.

Alternatives	Considerations
Alternative 1	
Status Quo	No program for treatment of existing populations or early detection/rapid response for invasive species currently exists. Existing populations of invasives will continue to spread. New invasive species may be introduced, un-noticed into the park. Large and established invasive species populations are inefficient and possibly ineffective to deal with as compared to recently established/new invasions. No inventory of current invasives will be undertaken. No plan to educate staff and visitors about invasive species will be developed.
Alternative 2	
Create an invasive species prevention zone ISPZ and early detection/rapid response plan for the entire park including the lakes. Inventory existing invasives. Establish monitoring program to detect new invasions, particularly in the Hemlock communities. Education of staff and visitors on invasive species identification and iMap data entry.	Promotes efficient use of available resources. Early detection/rapid response will identify existing and new invasive populations before they spread and are harder to contain/remove. Inventory will produce action plan for existing invasives. Promote early detection and removal of new invasions. There may be an increase in the vulnerability of the park with increased user numbers. Visitors educated and less likely to bring invasives into the park.

	Provides protection of park's biodiversity. Staff is assisted with knowledge about invasives.

Preferred Alternative – Alternative 2 – This raises the level of priority on identifying and dealing with invasive species at the park considering that the park has such a low level of invasive infestations at this time.

Rare, Threatened and Endangered Species

Background for Analysis:

No state or federally endangered or threatened species have been recorded in the park to date. Four state listed raptor species of Special Concern have been observed nesting in the park in recent years. These birds prefer deep forest habitat and often nest in the same location from one year to the next. No recent surveys have been done on raptors nesting in the park.

The 2010 recommendations from the NHP (Lundgren and Smith, 2010) include minimizing activity in the location of known nests during the breeding season of March – June and to minimize fragmentation of large forest areas. In addition the report recommends surveying any areas prior to cutting, trail building, or new construction in the woodlands.

Alternatives	Considerations
Alternative 1	
Status Quo	No changes to practices regarding state listed raptor species of concern
Alternative 2	
Develop guidelines based on NHP report and DEC recommendations.	Monitoring of active nests needed. Increased awareness of raptor nesting sites in forested areas. Temporary closures or re-routing of trail sections close to nests. Assists park staff in decision making.

Preferred Alternative – Alternative 2

Further protects sensitive species.

Reduced Mowing

Background for Analysis:

Reduction of lawn mowing has been tried as a protocol in other parks in the Saratoga-Capital District park region. This has resulted in savings related to fuel, maintenance and labor costs. It is also part of the sustainability effort as the reduction in mowing results in reduction of fossil fuel consumption and emissions.

As part of the agency's sustainability initiative, Grafton Lakes State Park has initiated a mowing reduction program that eliminated 20.34 acres of lawn mowing. This reduction has resulted in reduced labor and fuel expenses. In one year, the savings in fuel expenses is estimated to be approximately $1,100 by eliminating the need for 260 gallons of diesel fuel. This will also reduce carbon emissions in the park by over 5,700 lbs.

Lawn areas that come under the reduced mowing protocol may revert to more native wildflowers and other open field native plants which provide food sources for various wildlife species.

Reduced mowing is not used in areas where mowed lawn is necessary for recreation such as picnic areas, ball fields, etc.

Preferred Alternative – Status Quo

The reduction of use of fossil fuels and resulting decrease in cost and emissions is important to the goals of the park, the region and the agency. In addition this practice increases populations of native wildflowers and grasses. The reduced mowing protocol will remain in effect and additional areas will be considered to be added in the future.

Recreation Resource Development/Management

The recreation resource development alternatives primarily focus on the recreation use areas of the park. They also include developed areas, roads, and trails. These areas currently constitute approximately 2.75 percent of the park. This section of the chapter includes other forms of recreation including such activities as hunting, fishing, camping and environmental education. Each recreation and support element is discussed individually. There is a brief discussion of the existing condition and the alternatives considered. This is followed by a description of the preferred direction.

Camping

Definitions

Traditional campsites are state park campsites that are accessible by motor vehicle and are distributed along road "loops" with each site providing its own parking area. Sites are separated from each other by having a certain "frontage" along the loop road and may be in open or forested areas. Each of the campsites provides a level area for tent or camping vehicle, a picnic table and a fire ring. These areas have sites which may or may not provide electricity and water. The loops have support facilities such as potable water sources; refuse containers, rest rooms and showers.

Carry-in/primitive camping is similar to traditional camping except that it involves campsites that are located away from the main camping area and do not provide parking or vehicle access immediately adjacent to, or as part of, the campsite. The patron parks in a designated parking area and carries all camping equipment to the campsite. These campsites are typically provided with picnic tables and fire rings, with no electric or water.

RV camping is a variation of the traditional state park campsites with additional accommodations for recreational vehicles. This may include utility hookups and pull through sites. There is no plan for specifically designed RV campsites at Grafton Lakes State Park.

Campsites – Traditional and Carry-In/Primitive

Background for Analysis:

Grafton Lakes State Park is currently a day use park with no overnight camping facilities available. Occasional special use permits are issued to allow organized groups to stay overnight in their own tents or other equipment. These permits are generally issued in relation to a formal event or service project. The Deerfield picnic area is usually used when this need arises. Early plans of the park included camping areas on both sides of Long Pond and elsewhere in the park. Those facilities were never developed. Additionally, park staff have submitted proposals for camping in the park in recent years. These proposals have not been acted on.

There are 23 commercial, state and national campgrounds within 30 miles of the park (Chishti, 2011 – Appendix F) with a total of approximately 1,100 campsites (combined RV and tent) and 11 cabins. Most of these are further then 20 miles from the park. Although the trend in the commercial campgrounds is toward accommodating large RVs, most of them provide campsites which are suitable for tents, pop-up trailers and smaller RVs as well. Other amenities provided at many campgrounds include electric and water at some of the sites, laundry facilities, swimming in ponds and pools, Wi-Fi, and camp stores. Another popular trend is to provide season-long rentals, cable television and various organized activities such as movies, and musical entertainment.

Alternatives	Considerations
Alternative 1	
Status Quo	Park will continue to be a day use park. No camping facilities will be created in the park.
Alternative 2	
New camping area on west side of Long Pond Road in area indicated in Figure A4.	Park will become 24 hr park during camping season.
The proposed conceptual design includes traditional and carry-in camping loops (Figure A4)	Need increased staff for various camping functions. Camper registration point needed.
Detailed design of a final facility will include more details of aspects such as setbacks from the lake, minimization of soil and canopy tree removal and other measures to mitigate possible environmental impacts.	Location can get electricity from existing power lines. New facilities needed for wash houses, potable water.
Camping loops closest to lakes will be carry-in, those closest to the road will be traditional.	New wells and septic fields needed. Within a short walking distance to beach.
A new camper registration building will be built on the main park road, and a new connector road will be built to carry camper traffic to Long Pond Road and the campground. (Final Master Plan Map)	Increased traffic on Long Pond Road during camping season. Increased beach use and beach parking lot use during camping season.
Consider acquisition of Long Pond Road	Increased visitors to surrounding area amenities such as Dyken Pond, Peace Pagoda, Bird Paradise, hamlet of Grafton businesses. Location is within a forest type identified by the Natural Heritage Program as a significant ecological community which is part of forest stands noted for their exceptional quality and expansive coverage on the Rensselaer Plateau.
Alternative 3	
Same as Alternative 2 but located on east side of Long Pond Road near stone house location.	Same considerations as Alternative 2 plus the following: Not walk-able to beach for many patrons. New electric service needed. State and NWI wetlands in this area. Not in a significant ecological community, this location is within a forest stand that has been impacted by logging in the relatively recent past.

Alternative 4	
New camping area located north of the Long Pond beach complex. (Figure A5) The concept would be traditional camping sites with an emphasis on family style camping Sites would be set up only for tents and tent trailers with no hook ups available. Follow agency guidelines for spacing. Follow constraints of site. Include additional cabins in this area – not 4-season cabins.	Area has access to existing electric, water and sewer utilities. Water and sewer facilities will need to be expanded. Terrain is rough, with site constraints of steep slopes, bouldery soil which may limit the scope of developed camping area. Easy pedestrian access to beach area. No physical or jurisdictional changes to Long Pond Road. Will not need new connector road. Requires operational and design changes to the beach parking lot and entry gate. Part of Water Tower trail needs to be relocated. Some impacts to Beech Maple Mesic and Hemlock Northern Hardwood communities. Possible raptor habitat. Easy control and access through existing road system.

Preferred Alternative – Alternative 4

Provides camping at the park in a part of the Grafton region where few traditional campsites are presently available to the public (Appendix F). Offering camping at the park will increase patron participation in park services and activities. Although sited in a forest stand identified by the NHP as a significant ecological community, this forest type is not rare. The high quality forest will make an inviting site for a relatively low-impact camping area designed to minimize impacts to the forest and lakes.

Cabins

Background for Analysis:

There are no rental cabins at Grafton Lakes State Park. Opportunities for overnight camping within 30 miles of the park include approximately only 11 cabins for rent at commercial sites. (Chishti, 2011 – Appendix F)

With year-round visitation, there are opportunities to provide four-season rental cabins in the park.

Alternatives	Considerations
Alternative 1	
Status Quo	No new cabins will be built at the park. Current levels of facilities in the area will remain the same.
Alternative 2	
Provide up to seven new cabins for year round overnight accommodations at White Lily Pond. (Figure A6)	The proposed location is currently a successional old field and was the site of a former YMCA overnight camp, minimizing the ecological impacts of construction. Some clearing of brush and small trees will be necessary for building foot prints, parking and driveways. New septic system needed. Good access to trail system for all trail uses. (for new proposed trail locations see Appendix B, the trails plan) Good access to White Lily Pond and road. Need water and electricity, heating in winter.

Preferred Alternative – Alternative 2

This alternative provides an overnight experience not currently available at the park in a form (cabins) that are not readily available in the immediate vicinity. Environmental impacts will be minimized by the selection of a previously disturbed site.

Nature Center

Background for Analysis:

The environmental education program aims to provide experiential learning opportunities that inspire participants' sense of wonder about the natural world. The hope is that through engaging with nature directly, participants develop an appreciation which leads to a desire to explore further, and to take care of the wonders they have found.

To achieve these ends the development of a nature center where year-round programming could be based seems appropriate. A variety of perspectives on the natural world could be encouraged so as to reach the broadest number of patrons. A science lab, an exhibit of native live animals, touch and explore activities, environmental history and sustainability will all be potential themes of this center. With the support of this new space and other resources, the education program could also grow interest in the outdoors. This will happen through park sponsored nature and citizen-science clubs for a variety of age groups, opening the doors of the center into the surrounding park for deep and stimulating journeys of discovery. This connection will be facilitated by a small amphitheater and connections to park trails. These activities, which foster nature discovery and peer-to-peer education, could include collecting data on local amphibian populations, bird counts, and service projects in the park for local scouting troops.

Grafton Lakes State Park is in high demand for environmental education and interpretation programs. Although many varied and well attended programs are operated from existing facilities, local school districts, service organizations, scouting groups, families and individuals have all voiced a desire for additional programming.

Currently environmental education programs originate from two facilities in the park. Both of these are inadequate to meet the growing demand. First, at the beach area is a beach nature room. This is a small room (approximately 150 square feet) which houses some equipment and display space. The educator may be present at the room during beach hours and some scheduled programs are taught there.

The second facility is the Shaver Pond Nature Center which is west of the main park on Shaver Pond Road. The building houses one small meeting room and also serves as the home of a DEC air quality monitoring station. It also acts as a meeting point for some education programs but is inappropriate as an office space or exhibit space because of the distance from the main part of the park.

Other programs occur throughout the park as field trips. These field trips presently do not have a central location for meeting and giving orienting talks.

More programs and improved education opportunities could be provided if there were better facilities in the park. The park is well situated to provide a major year round environmental education facility for the area.

Locations mentioned in the analysis refer to Figure A1. Figures A2 and A3 indicate proposed sketch site plans.

Alternatives	Considerations
Alternative 1 - Status Quo	Education programs will continue at the present level
	No increase of offerings could be made to meet public demand
	No new classroom or exhibit space will be built
Alternative 2	
Expand Shaver Pond Nature Center	Adaptive use of existing building
	Distance from the main part of the park is undesirable
	Limited utilities at this spot
	May need to move DEC Air Quality Monitoring station
Alternative 3	
New Nature Center at Location A	Education programs could be expanded and increased to meet public demand
	New classrooms, meeting rooms and exhibit space will be built to provide better education opportunities
	New utilities (water, electric, septic) will be needed. Currently no utilities are available in this area in the off season.
	Area is currently developed and there will be a loss of some picnic area
	Location will not be use able year round
	Nature Center will open into picnic areas instead of parkland
	Not connected to trails
Alternative 4	
New Nature Center at Location B	Same considerations as Alternative 3
Alternative 5	
New Nature Center at Location C	Education programs could be expanded and increased to meet public demand
	New classrooms, meeting rooms and exhibit space will be built to provide better education opportunities
	Proximity to existing comfort facilities

Alternatives	Considerations
	Not connected to trails
	Not year round location
Alternative 6	
New Nature Center at Location D (Woodland Trail Location)	Education programs could be expanded and increased to meet public demand.
Provide beach area satellite "ambassador" site for programming.	New classrooms, meeting rooms, amphitheatre and exhibit space will be built to provide better education opportunities and outdoor classroom.
Include small amphitheatre at the nature center site as an outdoor classroom and for programming.	Center opens into parkland and is connected with trails.
Use Nature Center as a warming hut in winter months.	Year round location.
	Need new well and septic designed for year-round use.
	Distance from main beach area.
	Area is currently undeveloped and there will be a loss of some trees which could be kept to a minimum through design.
	Ambassador site (beach season only) will keep an education program presence at the beach which may interest patrons not otherwise aware of the park's programs.
	New ambassador site will not require utilities in the winter as it will be operated according to the beach schedule.

Preferred Alternative – Alternative 6

This new nature center meets the needs of the environmental education and interpretation program at the park. Year round programming, connection to the environment, proximity to the beach, and accessibility make this the preferred alternative.

Swimming Beaches/Expansion

Background for Analysis:

The beach at the southern end of Long Pond is the only swimming beach in the park. The beach is perceived to be filled to capacity several times during the year. At times, even when the swimming areas are below the maximum capacity set by the (health department?) the beach may be perceived to be overcrowded.

The addition of camping to the park is being considered in this master plan. When implemented, this will add to the current park patrons and bathers at the beach.

New York State Department of Health (DOH) rules and regulations call for 35 square feet of land area per bather (NYCRR Section 6-2.19 (4.4) – Bathing beach design standards). The current sand area is approximately 125,500 square feet. This equates to a calculated capacity of 3,585 bathers. Taking into consideration the additional 62,300 square feet of lawn area, the combined sand and lawn area at the beach (minus the area of paved walkways) totals approximately 187,800 square feet, yielding a capacity of approximately 5366 bathers based on land area. This does not account for other bathers that may be in the picnic groves.

The same rules and regulations specify that water surface area shall be 25 square feet per bather with 75 square feet per bather in areas over four feet deep. The swimming areas at the park beach are composed of 7 sections. Each section has approximately 16,200 square feet of surface area. The total water surface area is approximately 113,400 square feet with ¼ of that over four feet deep. This yields a total capacity of 3400 bathers based on water surface area.

Based on current configurations and DOH rules and regulations, the beach sand capacity exceeds the swimming area capacity by approximately 185 bathers. If lawn areas are taken into account, the surrounding land capacity exceeds the swimming area capacity by approximately 1,966 bathers.

The master plan calls for changes to the stormwater runoff management system in the beach area. The preferred alternative is to install raingardens as part of the new system. When these are installed it will mean a reduction of the available lawn area of approximately 6000 square feet. This is a reduction in capacity of approximately 170 bathers as compared to the overall capacity of land area at the beach. With this change, the capacity of the sand area would not change while the combined land area surrounding the beach would still be able to accommodate approximately 1,794 more bathers than are allowed in the swimming area.

The parking lot has 555 standard spaces and 20 ADA spaces. When parking exceeds this capacity, patrons park at other parking lots further from the beach area.

Alternatives	Considerations
Alternative 1 Status Quo	No changes to current beach configuration.
Alternative 2 Expand current beach on Long Pond to the north or south.	Encroachment on existing picnic areas. Disruption of shoreline aquatic habitat (depending on site specific design) and removal

	of vegetation.
Alternative 3	
Status Quo plus feasibility study for new beach on Long Pond.	Current beach has sufficient capacity and will remain as is. Another beach on long pond, possibly adjacent to new camping areas. Additional nutrient loading to the lake. Additional loss of shoreline and submerged natural habitat. Additional resources needed – bath house, life guards, parking, waste water systems, potable water source. Feasibility study and supplemental EIS will be needed.

Preferred Alternative – Alternative 3

The capacity of the sand and lawn areas is adequate and will not be changed. The possibility of a new beach on long pond will be studied for impacts and location.

Picnicking

Picnic Groves

Background for Analysis:

There are two main picnic groves in the park; one at the north end of the Long Pond beach which has become overgrown and is unused and one at the south end, part of which has also become overgrown and unused. The north area is being cleaned of equipment and allowed to revert back to natural habitat.

These groves are in wooded areas with sites that include a picnic table and charcoal grill. In the groves that are currently used, the use of these sites is on a first come first served basis. The south end grove also includes a pavilion used as an amphitheater for park programs such as EE&I or musical events.

On busy weekends the picnic groves are full, with more patrons waiting for tables as they become available.

Picnic areas are also available at Deerfield and Rabbit Run Pavilions. The pavilions are used by reservation but are available to the general public if not reserved.

Alternatives	Considerations
Alternative 1	
Status Quo	No change to number or location of picnic groves. Those groves that are unused will remain unused. The north area will continue to be dismantled and allowed to revert. Patrons may continue to be kept waiting for tables and grills at the busiest times.
Alternative 2	
Rehabilitate picnic facilities at south area. Include new playground in south area. Include larger pavilion to replace Amphitheater Pavilion. (See Pavilions analysis in this appendix) Dismantle north area and allow it to revert to natural community.	Increase of usable picnic tables in an existing picnic area close to main activities and beach. Keep appropriate distances between tables for privacy.
Alternative 3	
Alternative 2 plus new picnic tables added at site of new pavilion near Deerfield area.	Site chosen for new pavilion facility will include picnic tables.

Preferred Alternative – Alternative 2 (3 if new pavilion area is built)

The choice of Alternative 2 is made because of the high usage of existing picnic groves. The expansion of the south grove provides additional opportunities for family picnicking in the park and new playground facilities. If a new pavilion is constructed in the park at Deerfield there would be an additional advantage with new picnic tables at that location as well.

Picnic Pavilions/Tents

Background for Analysis:

There are three pavilions and four tents at the park. Details of these facilities can be found in Chapter 3, Table 5. The pavilions and tents are available for rent by reservation. They are often fully booked during the season. When they are not reserved they are open to the public.

Alternatives	Considerations
Alternative 1	
Status Quo	No new capacity for pavilion rentals will be added.
Alternative 2	
Replace all tents with permanent pavilions.	New pavilions will provide more weather resistant and durable structures.
Add one more picnic pavilion in area A near Deerfield as indicated on Figure A8.	Can share driveway/entrance/parking/rest rooms with Deerfield.
Include picnic table area.	Proximity to new nature center and beach area.
Minimize impacts to Shaver Pond watershed by directing stormwater runoff away from the pond and by using green infrastructure where possible.	Increased stormwater runoff and sanitary waste water. Added picnic table capacity as well as new pavilion.
Replace Amphitheatre pavilion in south area with larger pavilion.	Room for more tables and larger groups.
Alternative 3	
Add one more picnic pavilion in area B as indicated on Figure A8.	Good access from Long Pond Road and main park road.
Minimize impacts to Shaver Pond watershed by directing stormwater runoff away from the pond and by using green infrastructure where possible	Increased stormwater runoff and sanitary waste water.
New septic system to be located away from the pond.	
Replace Amphitheatre pavilion in south area with larger pavilion.	Room for more tables and larger groups.
Alternative 4	
Add one more picnic pavilion in area C as indicated on Figure A8.	Same as Alternative 3 except this location is closer to main park road and closer to new nature center.
Replace Amphitheatre pavilion in south area with larger pavilion.	Room for more tables and larger groups.

Preferred Alternative – Alternative 2

This alternative provides additional pavilion rentals in locations that are close to the main activity area of the park. For the new pavilion at Deerfield the shared drive and other facilities with will help lower costs and reduce impacts. New picnic table areas will help increase availability for that activity.

The addition of a larger pavilion at the south picnic area will allow for larger group rentals and more picnic tables.

Court and Field Games

Background for Analysis:

Court and field games at the park are located at the picnic pavilion areas.

- Deerfield – basketball (1/2 court), volleyball, horse shoes, and softball
- Beach Tent - volleyball
- Rabbit Run - volleyball and horse shoes
- North Area and Amphitheater - horse shoes

There are no facilities available for organized sports.

Alternatives	Considerations
Alternative 1 Status Quo	Park will continue as is with some games available for renters at pavilion areas. No new sports facilities will be installed.
Alternative 2 New full basketball court at Rabbit Run Complete full basketball court at Deerfield. New Bocce courts as a pilot project at Deerfield.	Adds recreational facilities which are in demand at the park.

Preferred Alternative – Alternative 2

Installing basketball courts at Rabbit Run and Deerfield will make these areas more attractive to park patrons. Bocce is a popular activity which currently has no outlet in the park. A pilot project of bocce courts at Deerfield will indicate user interest in this sport.

Playgrounds

Background for Analysis:

A new playground has been installed at the north end of the main parking lot and at Deerfield Pavilion.

New and expanded picnic facilities as recommended in the master plan have no playground in proximity.

Alternatives	Considerations
Alternative 1	
Status Quo	No new playgrounds will be built.
Alternative 2	
Install new playground in conjunction with rehabilitation of the south picnic area.	New picnic area patrons will be able to utilize picnic area close by. Close to Rabbit Run Pavilion. Increases attractiveness of this area.

Preferred Alternative – Alternative 2

Provides recreational facility to a newly rehabilitated picnic grove. This increases the attractiveness for patrons using this area with families and children.

Hunting

Background for Analysis:

Hunting is recognized as a recreational opportunity in State parks. Hunting opportunities are available in the park outside of the central recreation area. An area immediately adjacent to the high use areas is closed to hunting and is clearly marked. This includes the beach area, all picnic areas and pavilion areas.

Hunters are required to get a park hunting permit and to comply with park regulations, DEC regulations and license requirements Park hunting regulations are more restrictive than statewide regulations. Hunters are informed of the regulations through information booklets and maps issued with the mandatory park hunting permit.

The park deer seasons (shotgun, archery and muzzleloader) coincide with the rest of the surrounding area.

Deer hunting represents the largest type of hunting in the park in terms of permits issued. Since 1964, the annual number of permits issued for deer hunting has ranged from 2,610 to 7,039. The park represents an extensive area of public hunting opportunity within the central Rensselear Plateau.

Alternatives	Considerations
Alternative 1 - Status Quo	
All current hunting opportunities and regulations will be maintained. The availability of game species will vary depending on habitat and other natural conditions. The restricted zone will be maintained and adjusted appropriately to maintain the health and safety of the park patrons.	The current level of providing recreation opportunities for hunters and non-hunters will be maintained.

Preferred Alternative – Status Quo – no changes to habitat management or hunting regulations are anticipated for the park except for changing the restricted zone if recreational facilities are changed.

Fishing and Ice Fishing

Background for Analysis:

Warm and cold water fishing opportunities are provided by the lakes and streams within the park.

Fishing and ice fishing is permitted on all park lakes with proper DEC fishing license. No park permit is required. The boat launches provide access to the lakes and there are areas for shoreline access as well. Accessible fishing platforms have been installed at various locations in the park.

DEC provides stocking for additional fishing opportunities in some of the lakes. The park also participates with Trout Unlimited in the "Trout in the Classroom" project which involves students raising trout for eventual release at the park. Fish habitat improvement projects such as additions of submerged woody debris for foraging and sheltering fish have been conducted in Long Pond near the dam area.

Alternatives	Considerations
Alternative 1 - Status Quo	The current level of fishing opportunities will be maintained. Continues coordination of stocking programs with DEC.
Alternative 2 Same as Alternative 1 with improved fishing access areas selected within the park	Improves public access to fishing areas.

Preferred Alternative – Alternative 2

Public access to all fishing areas will be improved to allow a greater segment of the population to take advantage of this activity

Cultural Resource Protection Strategies/Management

Cemeteries

Background for Analysis:

There are four inactive family cemeteries in the park. (see the cultural resources map, Figure 14) All of these are on park property and have been assessed by the OPRHP bureau of historic sites. (Flagg, 2002) One of the cemeteries has deed restrictions specifying types of access to the cemeteries and management practices. The 2002 study recognizes the burial sites as one of the few remaining features of this region's early post-colonial occupation.

The 2002 study makes several general (for the cemeteries as a whole) and specific (for each individual site) recommendations based on the assessment. The general recommendations include:

- preserving and protecting the historic character of the burial grounds by managing the landscape toward slowly re-establishing an open clearing (except the Hicks cemetery)

- initiating a comprehensive and detailed survey of all four cemeteries

- instituting a cyclical maintenance and inspection program

- re-set toppled, loose and severely leaning gravestones

- research and develop interpretive materials for the cemeteries.

Other, more specific recommendations were made which can be found in the document.

Alternatives	Considerations
Alternative 1 - Status Quo	No changes to the management of the cemeteries will occur. The cemeteries may continue to be overgrown and un-interpreted. Loss of information about the region's history. Unmaintained sites are often a target for vandalism.
Alternative 2 Proceed with the recommendations made in the 2002 report. Update information through additional survey and assessment. As recommended in the report.	More information available about the region and its early settlement history. Cemeteries will be monitored, surveyed and interpreted. Historic gravestones will be repaired, less of a target for vandalism.

Preferred Alternative – Alternative 2

Realizes the potential of these cemeteries to illustrate portions of the region's history not available elsewhere. Preservation of the history of the area is one of the goals of the park, the region and the agency.

Dickinson Hill Fire Tower Restoration

Background for Analysis:

The Dickinson Hill Fire Tower is the newest and possibly the most valuable historic and scenic resource in the park. It was erected and placed into service in 1924 as part of the network of fire protection observation posts. The City of Troy contributed funds for the original construction to protect the watershed that supplied its water supply. The tower also saw some limited duty in the Aircraft Warning Service during the Second World War. Grafton resident, Helen Ellett, was hired as the first woman fire observer in New York State. She worked at the tower for 18 years beginning in 1943. It is the only remaining fire tower in Rensselaer County and provides an unparalleled 360 degree view. (Leahy Institute, 2010)

Restoration: For years the structure of the tower has been neglected. In 2010 an agreement was made between the New York State Police, who control the land where the tower is located, and OPRHP, transferred control of the tower itself to Grafton Lakes State Park. The Friends of Grafton Lakes State Park has agreed, and begun, to carry out the necessary work to restore the tower so that it can be a permanent and publicly accessible feature of the park. In March, 2011 the tower was placed on the New York State Register of Historic Places and was accepted for nomination to the National Register of Historic Places.

Access: Access to the tower from the park is by foot, biking and horseback riding on Fire Tower Road. The road is accessed from the park by trail. The town does not maintain the road in the park and the road condition immediately outside the park and illegal ATV and vehicle use on the trail is causing erosion issues. Fire Tower Road also serves an adjoining property owner who uses the property seasonally.

Vehicles may access Fire Tower Road from the East. Parking near the entrance to the driveway that leads to the Fire Tower is extremely limited. People sometimes park on adjacent private property, blocking access for that landowner. This situation can cause conflict with the park's neighbors at that location.

Alternatives	Considerations
Alternative 1	
Status Quo	The friends group and the park will continue with restoration activities at the fire tower site. This will interpret the tower for the public and open the tower for public access. Access will continue to be along Fire Tower Road which is connected to the Fire Tower Trail in the park. User conflict with neighbors when walking on Fire Tower Road. Vehicles sometimes left on neighbors' property. Fire Tower Trail will continue to erode and degrade over time.

Alternatives	Considerations
Alternative 2	
Continue Restoration with upgrades to Fire Tower Connector Trail. Ask town to abandon Fire Tower Road in the park. Fence Fire Tower Road at property line to prevent vehicular access but allow pedestrians and hikers and other non-motorized summer uses. Provide parking area on Fire Tower Road for access from the East.	Erosion problems stemming from road conditions and steep trail conditions. Controls illegal vehicular access to the park. Conflict with neighbors may still occur with walkers accessing the Fire Tower on Fire Tower Road. Need to work with town on parking area and abandonment of the road.

Preferred Alternative – Alternative 2 - Continue Restoration with upgrades to Fire Tower Trail and town abandonment of Fire Tower Road in the Park.

The tower will be restored and become a valuable asset in the history of the area. Trail access and erosion problems will be dealt with. Agreements with the town need to be arranged and communication with adjacent property owners needs to be maintained.

For details on the trails aspect of this alternative please see the Final Trails Plan – Appendix B.

Scenic Resources Protection Strategies/Management

Background for Analysis:

Grafton Lakes State Park has two excellent sources of scenic vistas, the first is the near ground view of hills surrounding the park's lakes and the second is the Dickinson Hill Fire Tower.

Ground level vistas at the lakes, along trails and on hill tops afford views of the rolling hills and moderate slopes and valleys that are typical of the Rensselaer Plateau. These landforms produce scenic qualities that are of high value. Expansive lake views and views from hilltops enhance the scenic desirability of the park.

Other vistas at the park include views at either end of Long Pond and the expansive views around the Dunham Reservoir. Both of these views take in surrounding unbroken hilltop profiles that express the nature of the rolling topography in this area.

The Dickinson Hill Fire Tower provides the major vista in the park. The view is a sweeping 360 degree view of the surrounding lands including the Rensselaer Plateau and the Adirondack, Catskill, Green, Helderberg and Taconic Mountain ranges. The view encompasses parts of three states – New York, Massachusetts and Vermont. The tower has been nominated for placement on the National Register partly due to the value of the scenic and historic views available.

Currently there are no specific acquisition plans or other programs in place to protect the viewshed of the Dickinson Hill Fire Tower. Potential acquisitions from willing sellers would be investigated on a case by case basis. Changes to any views entirely within the park are controlled and assessed by OPRHP.

Alternatives	Considerations
Alternative 1	
Status Quo	Changes in the viewshed outside the park will continue to be assessed on a case by case basis.
Alternative 2	
For the fire tower – develop a comprehensive scenic resource management plan which includes action items for viewshed protection. This can include:	Fire tower is on the state register and nominated for the federal register.
An inventory of the scenic resources as seen from the fire tower.	
Inventory of possible threats to the continued value of the resource.	
Identification of priority land acquisitions within the viewshed where willing sellers exist.	
Management of trees and vegetation close to the fire tower which have potential to degrade the	

resource.

For the vistas within the park:

Maintain the lake shoreline and hilltop views by limiting the visibility of any new development at or near the shoreline.

Maintain hilltop views by managing vegetation where it impinges on the views.

Maintain a policy of commenting on and protecting the park from development outside the park which may negatively impact the scenic resources.

Preferred Alternative – Alternative 2 – Guidelines will help protect scenic resources external and internal to the park. Scenic easements are needed to insure continued value of the view from the fire tower and restrictions within the park will protect the landscape value of lake shorelines and hill tops.

Infrastructure Development

Shaver Pond Nature Center

Background for Analysis:

The Shaver Pond Nature Center (the Center) is located on Shaver Pond Road approximately 1 mile north of NYS Rt. 2. It is not accessible by motor vehicle from the rest of the park without exiting the park. The building is accessible from the park trails system and is close to Shaver Pond. A major portion of the building and grounds is taken up by a DEC air quality monitoring station which operates under an MOU between OPRHP and DEC. The rest of the building consists of a kitchen, small meeting room and rest room. The building is fully accessible.

Currently the building is used by the park for meetings and some environmental education functions.

Alternatives	Considerations
Alternative 1	
Status Quo	No changes to function or usage of the Center.
Alternative 2	
Adapt building for other park operation function.	DEC monitoring station may have to be moved. Adaptive re-use of existing building. Renovations needed to make the building suitable for other park operations function.

Preferred Alternative – Alternative 2

This alternative will provide facilities needed for other park administrative uses. Re-use of existing infrastructure is part of the sustainability objective in the agency.

Maintenance Area

Background for Analysis:

The Maintenance Area is a compound of four buildings and related exterior service areas which house the various maintenance functions of the Park. The Lumber Barn predates State ownership, and is used for materials storage. The Old Maintenance Shop also predates State ownership, and is used for material and vehicle storage. The Maintenance Shop was built in 1974, and includes spaces for vehicle maintenance, workshop area, a restroom, and a break room / office. Finally, the Pole Barn was constructed in 2009 and is used for equipment storage.

The Old Maintenance Shop is showing its age, and is in need of a general rehabilitation, including new siding, windows, roofing, insulation, lighting, etc.

The Maintenance Shop is generally in good condition, but is undersized for its current uses. The single restroom, which includes a shower, is shared by both male and female employees. The location of the Maintenance Supervisor's office space within the small break room makes for less than ideal working conditions. The size of the current break room is too small to accommodate a Maintenance Supervisor's office or a suitable area for employees to eat lunch. Firewood is stored in a makeshift shed addition off of the rear of the building.

Alternatives	Considerations
Alternative 1	
Status Quo	Maintenance area will remain in current configuration.
Alternative 2	
Expand Maintenance Shop to include an additional workshop bay, maintenance supervisor office and gender specific restrooms. Install lunchroom and changing room to accommodate staff. Upgrade Old Maintenance Shop to increase storage space.	Park maintenance is outgrowing current space. New campground will increase needs for storage, shop services and staff. Men and women need separated restrooms, showers, changing areas.
Construct a new standalone woodshed west of the maintenance shop.	Adequate storage for tools and supplies.
Remove existing makeshift shed, and construct a new permanent addition to the west for equipment and tool storage.	

Preferred Alternative – Alternative 2

The growing demand on the maintenance staff and facilities is best met by this alternative. Added space for storage and staff will benefit the efficiency of the maintenance operations at the park. The increased responsibilities and maintenance tasks expected with the addition of camping will be better met with new and well designed facilities.

Vehicular Entrance Control/Access/Park Office

Background for Analysis:

During the summer months the vehicular entrance to the main part of the park is on NYS Route 2 about .7 miles west of the Grafton village center. This entrance has a contact station which is open during the season.

The configuration of the entry includes a "jug handle" loop which allows vehicles coming from the west to exit Route 2 without blocking through traffic at a point approximately 230 yards west of the park and then positions them onto a nearly perpendicular intersection. Vehicles must then cross over both east and westbound lanes of Rt. 2 to enter the park. Those travelling from the east turn right directly onto Grafton Lake State Park Way. (Figure A7)

New York State Department of Transportation (DOT) safety evaluations report that accidents have occurred at the jug handle entrance. All were right angle accidents involving a west bound vehicle on Route 2 and a vehicle entering the park from the jug handle. From March 1, 1998 to April 30, 2001 there were four such accidents reported and from Jan 1 1996 thru Sept 31, 1999 there were five. (Private communication from DOT)

Recently the speed limit in this area has been reduced to 40 mph and DOT has approved a permanent installation of electronic radar speed signs.

During the winter months Grafton Lakes State Park Way is not plowed and the main vehicular entrance is moved to Long Pond Road just north of the village center. This entrance routes vehicles past the Grafton town center, the park office, the park maintenance area and the park police headquarters. There is no vehicle use fee collected at this entrance.

Alternatives	Considerations
Alternative 1 - Status Quo	
Alternative 2	
Leave existing contact station for day users Build new park office with camper registration facilities north of existing contact station on Grafton Lake State Park Way. Office will also supply patrons with more information services such as maps, schedules and park information. Current office will remain for park services. Per New York State DOT, install permanent speed indicators east and west of park entrance on Route 2. Begin discussion with DOT and town officials to determine if an alternative design for the park entrance intersection can be implemented.	Better service to park patrons with improved access to maps and other information. Registration for camping and cabins. Increased traffic safety at this intersection is an important goal.
Alternative 3	
Move park entrance to Long Pond Road with new contact station/visitor center complex where the park road leaves Long Pond Road	Increased traffic on Long Pond Road during park season. Registration center for camping and cabins. Improved safety with less cars turning on Route 2. Two contact stations needed. View at entrance – office building, park manager's house, maintenance sheds, police headquarters. Existing building (shed) can be adapted for re-use.

Preferred Alternative – Alternative 2 provides services for the separation of camper registration from day user traffic. This will improve the efficiency of the park entrance for all patrons. The new park office will allow easier access for users who wish to apply for permits, find out about program schedules, park information and other functions. Talks with DOT and the town will help to produce an alternative to the jug handle design.

Martin Dunham Reservoir Dam Outlet Trail Crossing

Background for Analysis:

The Double Bit trail crosses the outflow structure of the reservoir. Currently the crossing is covered with flowing water making the crossing difficult. The trail formally ends at the crossing from either direction. A plan exists for the rehabilitation of the dam and outflow in compliance with DEC regulations. This rehabilitation is part of the Saratoga-Capital District park region capital facilities plan. (Civil Dynamics, 2008)

Alternatives	Considerations
Alternative 1	
Status Quo	The trail will continue to end on either side of the reservoir outflow structure.
Alternative 2	
No immediate changes or action. Feasibility study for the outflow structure and trail crossing alternatives is recommended.	No action will be taken immediately to formalize a crossing at this point on the trail. Future crossings may be considered after the rehabilitation and the feasibility study is completed.

Preferred Alternative – Alternative 2. While no immediate action is recommended, this alternative allows for future recommendations to provide a continuous trail across the outflow of the reservoir.

Comparison of Status Quo and Preferred Master Plan Alternatives

Table 1 Comparison of Status Quo and Preferred Master Plan Alternatives

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Park Preserve/Park Preservation Area	No preserve or preservation area	Create a park preservation area encompassing all of the park south of NYS Route 2.
Bird Conservation Area (BCA)	No BCA at the park	A BCA consisting of the entire park is created.
Lake Water Quality	Water quality monitoring has been done by OPRHP staff.	Continue and enhance water quality monitoring protocols.
Stormwater Runoff – Beach Area	Erosion of beach sand and inadequate system	Repair trench drains and install new rain gardens.
Aquatic Invasive Species	No plan in place	Alternative 2 – Create aquatic ISPZ for all the lakes in the park. Plan for early detection/rapid response. Install power washing stations at control point and Long Pond boat launch. Educate boaters, fishers and park staff. Monitor lakes
Terrestrial Invasive Species	No plan in place	Alternative 2 - Create an Invasive Species Prevention Zone at the park covering the part north of NYS Route 2
Wildlife Resources and Nuisance Wildlife	Park follows state guidelines	Status Quo
Rare, Threatened and Endangered Species	No specific park guidelines but park follows state and federal regulations	Alternative 2 - Develop specific park guidelines based on NHP report and DEC recommendations.
Reduced Mowing	Some reduced mowing areas	The current reduced mowing program will continue and additional lawn areas will be considered for inclusion in the program.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Camping- Traditional and Primitive/Carry-In	No camping at the park	Alternative 4 – A new campground will be installed north of the beach along Water Tower Road in Figure A5.
Cabins	No cabins at the park	Alternative 2 – Provide cabins for year round overnight accommodations at White Lily Pond area. (Figure A6)
Nature Center	No central adequate facility for Environmental Education & Interpretation.	Alternative 6 – A new nature center with amphitheatre will be built at the Woodland Trail trailhead. The beach nature center will become an "ambassador center" for the new nature center with a new pavilion or tent and the existing room will be used by the lifeguards.
Swimming Beach Expansion	Existing beach area approximately 187,800 square feet accommodates 5366 bathers	Alternative 3 – status quo plus a feasibility study for a new beach on Long Pond, location to be determined.
Picnic Groves	North and south areas have overgrown, unusable portions.	Alternative 2 – allow north area to revert, rehabilitate south area that is overgrown. Add picnic tables to possible new pavilion at Deerfield.
Picnic Pavilions/Tents	Three pavilions and four tents at the park. Filled to capacity during the season.	Alternative 2 – Replace all tents with permanent pavilions, replace Amphitheater pavilion with larger structure.
Court and Field Games	Half court basketball at Deerfield, various other games at other pavilions.	Alternative 2 – build new full basketball court at Rabbit Run pavilion, complete full basketball court at Deerfield Pavilion. Install Bocce courts at Deerfield as a pilot project.
Playgrounds	Existing playground north of main parking lot and at Deerfield Pavilion	Install new playground equipment at Rabbit Run Pavilion.

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
Hunting	Hunting is allowed in the park under certain regulations, DEC licensing and outside of a demarked active recreation zone.	Status Quo.
Fishing and Ice Fishing	Fishing is allowed in all park lakes and streams with proper DEC license.	Alternative 2 – maintains fishing access and provides improved access areas selected in the park.
Cemeteries	Guidelines for the cemeteries have been received from SHPO. Only minor active management of the cemeteries.	Alternative 2 – Proceed with recommendations from SHPO.
Dickinson Hill Fire Tower – Restoration and Access	Tower being restored with volunteer partnership, to be open to public when complete. Access by foot on driveway.	Alternative 3 - Continue Restoration of tower. Request town abandonment of Fire Tower Road in the park. Make recommended upgrades to Fire Tower Trail.
Scenic Resources Protection	No comprehensive plan for scenic resource protection	Alternative 2 – Implement guidelines as outlined in the analysis.
Shaver Pond Nature Center	Currently used as small meeting space and to house DEC air quality monitoring equipment.	Alternative 2 – Rehabilitate for other park uses. Re-locate DEC equipment to new nature center to take advantage of public education opportunity.
Maintenance Area	Older buildings, some inadequately sized and designed for efficient maintenance operations.	Alternative 2 – Improvements will be made to maintenance facilities to develop functionality and better meet staff needs.
Vehicular Entrance, Control/Access	Main summer entrance to the park is on Route 2 with “jug handle” entrance. Winter entrance is from Long Pond Road.	Alternative 2 - Main entrance will remain in present location. A new park office will be built north of the current contact station with facilities for camper registration. Discuss safety of current configuration with DOT.
Martin-Dunham Reservoir Dam Outlet Trail Crossing	Outflow is water covered, impacting trail connectivity, and	No changes at this time, recommend feasibility study

Element/Topic	Status Quo Alternative	Preferred Master Plan Alternative
	therefore difficult for trails to cross. Existing plan for dam rehabilitation exists.	for trail crossing and proceeding with dam rehabilitation for compliance with DEC regulations, according to the 2008 study.

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B. Appendix B – Final Trails Plan

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Final Trails Plan

for

Grafton Lakes State Park

January 2012

New York State Office of Parks, Recreation and Historic Preservation

Prepared in conjunction with the Final Master Plan/Final Environmental Impact Statement for Grafton Lakes State Park 2012

Acknowledgements

The Grafton Lakes State Park Trails Plan 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 who participated in the development of this Final Trails Plan Document.

Rose Harvey
Commissioner

Andy Beers
Executive Deputy Commissioner

Tom Alworth
Deputy Commissioner for Natural Resources

Alane Ball Chinian
Regional Director, Saratoga-Capital District Region

Saratoga-Capital District Region Staff
Casey Holzworth, Natural Resource Steward (Biologist)
Kurt Kress, Capital Facilities Manager
John Lowe, Park Manager
Melissa Miller, Park Manager
Elizabeth Wagner, Park Interpreter

Albany Staff
Salim Chishti, Park Planner
Lynne Gort, Parks and Recreation Aide Activity Specialist
Thomas Lyons, Director of Resource Management
Nancy Stoner, Trails Planner
Karen Terbush, Environmental Analyst

Table of Contents

Appendices

List of Figures

List of Tables

Introduction

Grafton Lakes State Park is a 2,545 acre park located in the Town of Grafton in Rensselaer County, New York. The park is located on the Rensselaer Plateau, a regionally unique, largely forested area of approximately 105,000 acres. The plateau is one of the largest and most ecologically intact native habitats in New York State. The park is divided into two parts, north and south, by New York State (NYS) Route 2. There are five lakes (Shaver Pond, Long Pond, Second Pond, Mill Pond and White Lily Pond) located within or adjacent to the northern portion of the park and one lake (Dunham Reservoir) located within the southern portion of the park.

Grafton Lakes State Park offers a variety of recreational opportunities including swimming, boating, fishing, hunting and trail-related activities. There are over 21 miles of designated trails in the park. Trail-related recreational activities include: hiking, biking, horseback riding, cross-country skiing, snowshoeing and snowmobiling. Trails range from singletrack trails (trails with a tread width of approximately 18-30 inches) to 8-12 foot wide trails that accommodate snowmobiles and other winter uses. The vast majority of the trail system accommodates multiple uses throughout the year.

Trails are also used for environmental interpretation and educational programming. Nature hikes on various themes are held throughout the year including birding, environmental history and animal tracking on snowshoes in the winter. There are nature interpretive signs along an accessible trail northeast of Long Pond beach and numbered posts for self-guided interpretive tours along two other trails. School groups are engaged through formal programming, themed hikes and treasure hunts. Trails are used for other group events such as the XTerra Triathlon and weekly bike rides led by the Capital MTB, a group advocating and promoting mountain biking in the New York State Capital Region and beyond.

The Grafton Lakes State Park trail system has benefitted from the existence of a Trails Advisory Committee (TAC) established in the mid 1990s. The TAC is composed of members of trail-user groups of the park (representing summer and winter uses) as well as park and regional staff. Local groups include the Capital MTB (mountain bicyclists), Grafton Trail Riders (equestrians) and the Grafton Trail Blazers (snowmobilers). The TAC monitors trail conditions, organizes trail clean-up days, helps to maintain the trail system in conjunction with park staff, and prioritizes trail projects.

As part of the master planning process, it was identified that, due to the variety of trail experiences offered at the park, the extensive use of the trail system and the potential impact of recreational use on the park's natural resources, a trails plan should be developed. With year-round use of the trails, changing environmental conditions, and expanded information on natural resources in the park, this trails plan provides direction and guidance for staff in the development, management and maintenance of a high quality trail system that meets the needs of the users while protecting the resources and integrity of the park.

The Final Trails Plan has been developed concurrently with and as a supporting document to the master plan. Surveys were conducted in summer 2010 to capture information about the public's use and expectations of the park. Public comments regarding trails and recreation in the park were received at a public information meeting held on January 27, 2011, as well as during the public comment period during January and February 2011 as part of the master planning process. A Trails Plan Subcommittee, comprised of OPRHP staff, was formed in August 2010 to provide input during

the trails planning process and to make recommendations on proposals for the Final Trails Plan. The Trails Plan Subcommittee met with the Trail Advisory Committee in March 2011 to gain additional user input. All of the comments received by OPRHP have helped to guide the development of the Trails Plan. Other factors that were taken into consideration in the development of the plan include current trail conditions, current uses, undesignated trails, needs and trends, current and future demands, and natural resource protection.

Existing Trail System

The existing trail system consists of over 21 miles of designated trails throughout the park. Designated trails are defined generally as trails that are named, marked and maintained for specific uses. When trails are designated, they have allowed uses assigned to them; trails are to be maintained to use standards per OPRHP trail standards (see Appendix 1). Allowed trail uses in the park include hiking, biking, horse-back riding, snowshoeing, cross-country skiing and snowmobiling.

Figure 1 – Existing Trail System depicts the locations of designated trails, their allowed uses and parking areas in the park. The trail system provides access to many areas of scenic, historic, cultural and natural significance, as well as, provides connections between the high use areas (lakes, beach and picnic pavilions). Figure 1 also depicts undesignated trails consisting of a trail under construction and social paths that have developed over the years.

Figure 2 – Winter Trail System shows the allowed winter uses for each trail in the park. Most trails provide for multiple uses in the winter months. Snowshoeing is allowed on all trails. Trails that allow cross-country skiing and snowshoeing only are not groomed. Snowmobile trails are groomed and are part of the larger statewide snowmobile system. **Figure 3** – Snowmobile Trail System depicts a regional view of snowmobile trails that include trails within Grafton Lakes State Park.

The main access to the trails in the northern portion of the park is along the Grafton Lakes State Park Way and the large parking lot near the beach. Additional parking areas are located at each of the nearby pavilions and a small parking lot is adjacent to the toll booth along the Park Way. Five other parking areas located at various locations around the border of the park provide multiple entry points into the park and the trail system. The southern portion of the park also has a number of parking areas located around the park boundaries. In the winter months, the Park Way is closed off to vehicular use and the main access is located at the winter entrance accessed from Long Pond Road. During the summer months the park is accessible from Troy by bus operated by the Capital District Transportation Authority.

Horse trailer parking is allowed at three locations along Long Pond Road: the Mill Pond parking lot, an open field across from the Second Pond boat launch and the north end of Long Pond. In the main area of the park, trailer parking is allowed at two picnic area lots and the main parking lot at the beach area (although horse trailer parking is not allowed here during the busy summer months). On the south side of NYS Route 2, horse trailer parking is available at the southern terminus for the Double Bit Path Trail along Dunham Road.

Snowmobile access to the park is by trailer and by connections to external snowmobile trail systems through Corridor 9 to the north and south. Secondary snowmobile trails access the park on Fire Tower Road, Ward Hollow Road, Johnston Road and Long Pond Road. The Park Way is not plowed from Route 2 to the park office/shop intersection and becomes a wide section of Corridor 9 snowmobile trail. Snowmobile trailer parking is located at the main parking lot near the beach, the parking area at the park office/shop, Mill Pond parking area, near the boat launch at Second Pond and at the Stone House on Long Pond Road.

Trails in the park are maintained by park staff in conjunction with various user groups and volunteers. The Trail Advisory Committee and members of the Friends of Grafton Lakes State Park work on trail development and maintenance projects on an on-going basis. The park hosts an annual

National Trails Day event usually focusing on one or two specific trail projects. Local scout troops often provide trail cleanup efforts. The Student Conservation Association (SCA) has occasionally conducted week-long trail work projects on site.

a) Inventory

There are over 21 miles of trails in Grafton Lakes State Park. Table 1 is an inventory list of all designated trails in the park. The table includes the names of the trails, marker colors, allowed uses, and trail length for each trail.

Table 1 Grafton Lakes State Park Trails Inventory

Trail Name	Blaze	Allowed Uses	Mileage
Chet Bell (CB)	Yellow	H, B, E, SS, XC, SM	0.59
Criss Cross (CC)	Red	H, B, SS	0.20
Crossover (CO)	Tan	H, SS, XC	0.40
Deer Run (DR)	Not marked	H, SS, XC	0.40
Double Bit Path (DB)	Red	H, B, E, SS, XC	1.62
Fire Tower Connector (FTC)	Not marked	H, SS	0.11
Fire Tower (FI)	White	H, B, E, SS, XC, SM	0.90
Fishing Access (FA)	Yellow	H, SS, XC	0.27
Gartler's (GA)	Yellow	H, B, E, SS, XC, SM	1.40
Granville Hicks (GH)	White	H, SS, XC	0.21
Hicks Beltway (HB)	White	H, B, E, SS, XC, SM	0.19
Little Johnny's (LJ)	Tan	H, B, E, SS, XC, SM	2.33
Long Pond Connector (LPC)	Not marked	H, SS, XC	0.19
Long Pond (LP)	Orange	H, B, SS, XC	2.53
Mill Pond (MP)	Yellow	H, B, E, SS, XC	0.47
NIMO (NM)	Red	H, SS, SM	1.00
Perkins (PK)	White	H, SS, XC	0.51
Scout (SC)	White	H, B, E, SS, XC	0.33
Shaver Pond Nature (SN)	Tan	H, B, E, SS, XC	0.14
Shaver Pond (SP)	Red	H, E, SS, XC	2.00
South Dunham (SD)	Orange	H, B, E, SS, XC, SM	1.44
Spruce Bog (SB)	Orange	H, B, E, SS, XC	2.38
Water Tower (WT)	Yellow	H, B, SS, XC	0.87
White Lily (WL)		H, SS	0.16
Wildwood (WW)	Orange	H, SS, XC	0.25
Woodland Nature (WN)	Tan	H, SS, XC	0.23
		Total Mileage	**21.12**

Type of Use: H (Hiking), B (Biking), E (Equestrian), SS (Snowshoeing), XC (Cross-country skiing), SM (Snowmobiling).

Trails that allow cross-country skiing are additionally marked with green or blue markers depicting easy and intermediate skill difficulty levels for that particular use.

In 2008, OPRHP approved the construction of a few new trails and trail reroutes. Through the efforts of the Trail Advisory Committee, the Friends Group, park staff and other volunteers some of these approved changes are already part of the designated system or are currently being constructed while others remain in the conceptual stage. Currently, one trail and a trail section reroute are under construction. Shown as an undesignated trail on Figure 1 is the future Red Eft

Trail connecting the Scout Trail to Shaver Pond Road. This trail was being constructed to provide an off-road multi-use trail connection between the north and south sections of the park. The 0.77 mile long trail is not yet opened for use; some final tread work and blazing are required prior to designating the trail; this plan includes further analysis of this trail connection in light of other considerations. A section of the Spruce Bog Trail is being rerouted to avoid a long muddy section of existing trail.

b) Assessments

OPRHP staff conducted trail condition assessments in November 2010 and Spring 2011. The trail assessment team used hand-held Trimble GeoXT Global Positioning System (GPS) units to accurately collect assessment information along each trail. Trails were assessed for general condition, areas of erosion, ease of travel, adequacy of signage and issues with water on the treadway. **Figures 4 and 5 –** Trail Assessments (North and South respectively) depict the results of these assessments and represent the conditions found along the trails at that point in time. Additionally, locations and conditions of bridges and culverts and locations of invasive species along the trails were noted although this information is not included in this plan.

Staff knowledge and these condition assessments were used to develop the maintenance recommendations provided in the Implementation section (page B-28) for each trail. More in depth analysis of major trail issues and the trail system as a whole is provided in Trail System Alternatives section (page B-13).

Note: In August 2011, Hurricane Irene impacted a large region of the northeast. There was widespread damage sustained by many parks. These conditions assessments do not take into account damage that may have occurred along the trails at Grafton Lakes State Park during this storm.

c) Recreational (Trails) Needs Assessment

Other state lands within 20 miles of Grafton Lakes State Park that provide multi-use trail opportunities include Cherry Plain and Schodack Island State Parks, Pittstown, Tibbits, Taconic Ridge, and Berlin State Forests and the Capital District Wildlife Management Area. Peebles Island State Park and Dyken Pond both provide hiking only trails. Across the border in Vermont, the Green Mountain National Forest provides multi-use trails while Mount Greylock in Massachusetts provides hiking only trails.

As stated in the master plan (Chapter 2 Park Background), the majority of park users come from Rensselaer and Albany counties with a few patrons from other nearby counties. Based on the 2010 survey findings, the master plan identifies Rensselaer and Albany counties as the service area of the park. As shown in Table 1 of the master plan, trail activities including biking, equine activities, hiking, cross-country skiing, and snowmobiling all have at or above-average demand for each particular activity within these two counties.

Many comments received during the public information meeting and during the public comment period expressed great interest in the existing trail system at Grafton Lakes State Park. Positive and constructive comments were received from all trail user groups of the park to depict how the multi-use trail system works well. In addition, user groups provided recommendations for trail

system improvements to provide enhanced trail opportunities. These comments and public interest support the need for the trail system at Grafton Lakes State Park.

Trail System Alternatives

The alternatives and analyses presented here are the result of discussions on resource information provided in the previous chapter as it was analyzed to develop recommended directions for the trail system in the park. All trails in the park were mapped using Global Positioning Systems (GPS). A conditions assessment of all trails was conducted by OPRHP Staff. The existing conditions maps, assessment information, Natural Heritage Data and public comments received from the master plan public information meeting and public comment period were all analyzed by OPRHP staff. The following factors were considered in the analysis process:

- Types of trail experiences
- Minimizing user conflicts
- Needs and desires of trail users
- Compatibility with and protection of significant natural and cultural resources
- Accessibility to persons of all abilities
- Support facilities
- Connections within high-use areas
- Linkages to external trail systems and adjacent communities
- Adequacy of parking
- Sustainability
- Parallel trails
- Density of trails
- Opportunities for environmental education and interpretation
- Park operations and management

The status quo, alternatives, considerations, and preferred alternative for specific areas of the park are described in tabular form below.

Scout Trail

Background for Analysis: The southern portion of the Scout Trail is a well-compacted and eroded old road bed that remains wet and muddy much of the year. The trail is located such that water runs off the side hill onto the trail tread. The trail has a shallow grade and follows the fall line (generally aligned straight down a hill and therefore, more prone to erosion).

The Student Conservation Association (SCA) completed some upgrades to this section of trail in Fall 2009 including a culvert replacement and construction of a turnpike at the base of the trail and construction of a series of knicks and rolling grade dips along the trail to direct water off the treadway. The culvert and turnpike remain in great condition. Some of the knicks and rolling grade dips are now compacted and no longer span the width of the trail tread. Although these structures have funneled water off the trail, the trail remains muddy.

This trail provides a main connection from the Parkway, the parking lot at the toll booth and the Perkins Trail to the Shaver Pond area and allows for multiple trail loop opportunities.

Alternatives	Considerations
Alternative 1 - Status Quo	• Trail remains wet and muddy • Continued erosion and impacts to resources • Negative user experience

Alternative 2 – Repair knicks and rolling grade dips and construct more of them	• Will funnel more water off the trail reducing muddiness • Maintains fall line alignment • May improve user experience
Alternative 3 – In-fill the trail bed with soil and crushed stone to raise the trail tread and reestablish the outslope to shed water	• Will be expensive due to length and depth of trail bed • Maintains fall line alignment necessitating construction of ditches and use of culverts • Improves user experience
Alternative 4 – Reroute the southern portion of the trail and close existing alignment	• Will develop trail with sustainable grades • Improves user experience • Will reduce impacts to natural resources with closure of fall line section

Preferred Alternative – Alternative 4 is the preferred alternative due to the desire to maintain this trail connection while providing a more sustainable alignment.

A conceptual alignment for the reroute is shown on **Figure 6**. The reroute will start north of the turnpike and culvert so as to utilize this already upgraded section. The existing alignment will be closed once the reroute is complete.

Perkins Trail Extension, Red Eft Trail and Route 2 crossing

Background for Analysis: In 2008, OPRHP approved a number of trail projects. One was the development of an extension to the Perkins Trail that would provide a multi-use trail parallel to the Park Way (which is heavily traveled during the summer months) and provide a more direct connection between the main day-use area and the south section of the park. The proposed trail alignment was flagged in 2008 but has not yet been constructed. Upon review of the proposed trail, it was noted that the western section follows the fall line and connects to Route 2 east of the main entrance.

Another approved project was the development of a trail to connect Shaver Pond and the Scout Trail to Shaver Pond Road, thus allowing a connection across Route 2 to link to the Gartler Trail. This trail, known as the Red Eft Trail, was laid out and constructed in 2009, although there remain some isolated areas still in need of rock work prior to designating and opening the trail for use.

With the desire to provide a safe and designated trail crossing of Route 2 and to provide a trail connection between the north and south sections of the park, these approved trail projects were re-analyzed.

Alternatives	Considerations
Alternative 1 - Status Quo	• Develop the two trails as proposed and flagged. • Creates two trail intersections along Route 2 that are not at the main entrance. • The Perkins Extension Trail has a fall line section.
Alternative 2 – Develop only the Red Eft Trail and provide one Route 2 crossing.	• Shaver Pond Road is not an ideal Route 2 crossing location - would require road walk for

	trail users to main entrance. • Does not accommodate need for a parallel trail to the Park Way and more direct access from main day-use area to south section of the park.
Alternative 3 – Develop a stone dust trail alongside the Park Way instead of the Perkins Extension Trail.	• Moves trail users off of the busy Park Way entrance road. • Drainage ditch constricts use of this corridor.
Alternative 4 – Develop both trails with realigned western sections and provide one Route 2 crossing at the main entrance.	• Provides off-Park Way trail connection to the south section of the park. • Provides an additional loop by connecting these two trails. • Provides a more sustainable alignment for the Perkins Extension Trail.

Preferred Alternative – Alternative 4 is the preferred alternative due to the desire to develop both trails while establishing only one Route 2 crossing point at the main entrance. Alignments for the two trails and the alignment of the Route 2 crossing are shown on **Figure 6**. The already developed western section of the Red Eft Trail will be closed once the realigned section has been constructed.

Spruce Bog Reroute

In 2008, OPRHP approved rerouting a poorly drained section of the Spruce Bog Trail (see **Figure 6**). The reroute has been flagged and partially constructed through efforts of the Trail Advisory Committee. The trails planning process included review of this flagged route. It was noted that the eastern-most section of the flagged route runs through a damp hummocky area. It is recommended to further assess the alignment for this eastern-most section of trail. Further assessments may find a more appropriate alignment or if not, will determine what type of upgrades will be required for the trail tread prior to opening for use. Figure 6 highlights the section of trail requiring further assessment.

Fire Tower Connector Trail

The Fire Tower Connector Trail is a short mostly fall line trail that connects Long Pond Road to Long Pond Trail. The trail will be rerouted to provide a more sustainable alignment and appropriate connection. The trail will be rerouted to align across from the Fire Tower Trail and in the direction of the beach area. This alignment will accommodate increased use from the main day-use area as upgrades and promotion of the Fire Tower continue. A conceptual alignment for this trail reroute is shown on **Figure 6**.

White Lily Pond

The recently acquired White Lily Pond parcel currently provides a short trail from the parking area to the waterfront. The Trail Advisory Committee has worked with park and regional staff recently proposing a loop trail to connect into the Spruce Bog Trail from the White Lily parking area. The proposed trail has been flagged by TAC members and the alignment is shown on **Figure 6**. There is a short section on the eastern leg that appears to align off park property which will require some re-

alignment. Due to recommendations given in the master plan, future assessment for the alignment of the western leg of the trail will be required (see **White Lily Pond Area – Winter Use** below for more details).

In addition, this plan recommends further research into developing a trail and bird viewing platform and/or boardwalk along the southeast section of White Lily Pond near the wetland. Future on-site assessment and research is required for the feasibility and appropriate location of this trail and viewing area.

Gartler's Trail and Extension

Background for Analysis: The Gartler's Trail provides a multi-use trail connection between a small parking area on Route 2 and Johnson Road. This connection at Johnson Road is the only trail connection between Route 2 and the trails around Dunham Reservoir. The northern section of trail provides access to the large blueberry field and connects to Route 2 at the jug handle. There is a short spur trail located about halfway along the trail which provides a connection to the Grafton Trail Riders (horse club) adjacent land parcel. This spur trail runs through a wetland area and across the Mill Pond Stream at the park boundary. It appears that there have been no upgrades to stabilize the trail tread or stream crossing. There has been damage to the wetland area and the along the banks of the stream due to trail use.

The Grafton Trail Riders requested the development of a trail from the existing spur trail along the Mill Pond Stream that follows the eastern park boundary to the park entrance to provide a more direct connection from their parcel to Route 2. This potential trail could also create a loop opportunity around the blueberry field for a shorter loop trail experience.

Alternatives	Considerations
Alternative 1 - Status Quo	• The Gartler's Trail remains an out and back trail. • Use of the spur trail continues to degrade the wetland area and stream banks.
Alternative 2 – Upgrade the existing spur trail.	• Uses an existing trail and stream crossing. • Reduces impacts to wetland resources and stream banks
Alternative 3 - Develop a trail along the stream connecting the spur to the main entrance.	• Area adjacent to the stream is fairly low elevation and spongy along some sections. • The southern half of the trail alignment would create a parallel trail to the Gartler's Trail.
Alternative 4 – Develop a loop trail to connect the east side of the Gartler's Trail to the main entrance and small parking area and relocate the spur trail to connect off the new loop trail.	• Provides a short loop trail opportunity from Route 2 parking area as well as for trail users coming from the south. • Requires development of a new trail section and spur trail with stream crossing. • Reduces impacts to wetland resources and stream banks.

Preferred Alternative – Alternative 4 is the preferred alternative due to the desire to provide a loop trail opportunity on this southern parcel and develop a sustainable trail connection to the Grafton

Trail Riders parcel. Conceptual alignments for the proposed new section and spur trail are shown on **Figure 7**. Final alignments will be determined with future on-site assessment. The stream crossing will include trail hardening (armoring) along the banks at minimum.

South Dunham Trail and Dunham Hill vicinity

Background for Analysis: The South Dunham Trail is an out and back trail connecting Johnson Road to Dunham Road. The southern trailhead is located about two-tenths of a mile southeast of the small parking area/boat launch at the southern tip of the Dunham Reservoir. The southern portion of the South Dunham Trail (an old road bed) has a ¼ mile stretch of extremely muddy, rutted and eroded trail. Trail assessments also noted tread widening and a social path adjacent to the trail caused by trail users avoiding wet and muddy trail conditions.

This trail is currently designated for all trail uses in the park (hiking, biking, horseback riding, cross-country skiing, snowshoeing and snowmobiling). This trail is considered part of the state snowmobile trail system although it receives very little use. Currently, there is no snowmobile trailer parking area available along Dunham Road.

The master plan recommends removing snowmobiling from the South Dunham Trail and creating a park preservation area encompassing all of the park south of Route 2 (excluding the C9 corridor). See master plan for more details.

Alternatives	Considerations
Alternative 1 - Status Quo	• Trail alignment remains in place and allowed uses remain. • Diminished visitor experience and negative impact to natural resources if trail is not upgraded. • Would be very expensive to upgrade this section of trail for all uses. • Southern trailhead remains disconnected from parking area; no trailer parking exists.
Alternative 2 – Snowmobile use is removed from the trail; current alignment remains for non-motorized uses.	• Diminished visitor experience and negative impact to natural resources along the southern section of trail.
Alternative 3 – Snowmobile use is removed from the trail; the southern section of the trail is rerouted along the side hill above the reservoir to connect directly at the southern parking area. The original alignment is closed.	• Enhanced visitor experience and reduced impact to natural resources. • Location of trailhead at parking area better accommodates trail use.
Alternative 4 – Develop a trail looping off of South Dunham Trail up and around Dunham Hill.	• Provides an approximately 1.5 mile loop opportunity from nearby trailheads. • Trail alignment near bedrock spines located along the ridge line may provide a unique visitor experience.

Preferred Alternative – A combination of Alternatives 3 and 4 is the preferred alternative due to the enhancement of the visitor experience, creation of a loop opportunity and reduction of negative impacts on the area's natural resources. Conceptual alignments for the reroute and new trail are shown on **Figure 7**. Final alignments will be determined with future on-site assessments. Winter use changes are shown on **Figure 9**. Snowmobiling will continue to be allowed along the C9 corridor but is illegal for all other portions of the park south of Route 2 including the Dunham Reservoir itself.

Day-Use Area

Background for Analysis: The main day-use area of the park, including the beach on Long Pond and pavilion areas, is heavily used by patrons throughout the summer. These areas are highly used by families with young children and persons with varying abilities. The Long Pond Trail is 2.5 miles long and rugged in some areas and does not generally accommodate young children or inexperienced trail users.

There exists a need to develop short easy loop trails (i.e. short family hike) in this vicinity that would accommodate a variety of visitors.

Alternatives	Considerations
Alternative 1 – Status Quo	• No designated short loop trails exist for the main day-use area of the park.
Alternative 2 – Develop short loop trails near the beach and pavilion areas.	• Enhances use of day-use area for families with young children and patrons with varying abilities. • Includes use of some existing sections of trails.

Preferred Alternative – Alternative 2 is the preferred alternative due to the desire to enhance the use of the day-use area for families with children and persons with varying abilities and experiences. **Figure 8** shows the three proposed trails. One will be constructed to ADA standards and loop off of the southeast section of the Long Pond Trail providing scenic views of the northern section of Second Pond. A viewing platform will be constructed at a site along Long Pond to provide a destination and viewing location. The other trail will provide a loop from the Rabbit Run pavilion area and follow portions of an existing path along the shoreline of Second Pond. The third will be developed in the Deer Run pavilion area just east of Shaver Pond.

NIMO Trail and extension

Background for Analysis: Currently, snowmobilers who park at Mill Pond or the Park Office/shop area access the NIMO Trail by using a section of S99 along Long Pond Road. Only one lane of the road is plowed during the winter to accommodate snowmobile use. This in turn only allows one lane for vehicular traffic, often causing delays and backups as vehicles come in and out of the area to access the Second Pond and Stone House parking areas.

Alternatives	Considerations

Alternative 1 - Status Quo	• Snowmobile access remains on this section of Long Pond Road.
Alternative 2 – Designate Mill Pond Trail for snowmobile use to replace use of Long Pond Road in this section.	• Requires widening the trail corridor which is adjacent to Mill Pond. • Adds motorized use south of Mill Pond; currently only non-motorized uses are allowed in this vicinity.
Alternative 3 – Develop and designate the power line corridor from the Park Office/shop to the NIMO Trail as a snowmobile trail. Move S99 to run adjacent to the winter park entrance road and along the power lines replacing use of Long Pond Road in this section.	• Allows two-lane plowing of this section of Long Pond Road and reduces vehicular congestion. • Uses an existing wide corridor. • Requires construction of a bridge over the Second Pond outlet. • Maintains non-motorized uses on the south side of Mill Pond.

Preferred Alternative – Alternative 3 is the preferred alternative due to the use of an existing corridor and eliminating snowmobile use on a section of Long Pond Road to reduce vehicular congestion. This NIMO Trail extension, shown on **Figure 9**, will be designated for snowmobile use only. The corridor will initially be cleared and then brush-hogged each fall in preparation for snowmobile grooming.

In addition, it is recommended to upgrade the NIMO Trail treadway to better accommodate snowmobiles during the entire snow season, as well as all uses year-round. This will provide additional loop trail options and to allow trail users to travel off of Long Pond Road. Upgrades will require fill and culvert work for tread development in some areas. Once the NIMO Trail is upgraded, C9 will be moved off of Long Pond Road to the NIMO Trail and allow for two lane plowing up to the Stone House.

Proposed loop trail off of Fire Tower Trail

Background for Analysis: In 2008, a loop trail was proposed to be developed off of the Fire Tower Trail starting at the intersection with Spruce Bog Trail, heading northeast and to then connect in at the northern end of the Chet Bell Trail. This proposed trail would provide an alternate loop for cross-country skiers off of the Fire Tower Trail, which is heavily used by snowmobilers. The trail would also then be open to hiking, biking and horseback riding the remainder of the year. To date, this trail has not been flagged.

The Chet Bell Trail is located in this vicinity and provides a similar loop off of the Fire Tower Trail. The Chet Bell Trail currently allows cross-country skiing and snowmobiling for winter uses. The trail is not part of the designated state snowmobile trail system. Snowmobiles are allowed on the Fire Tower Trail and Long Pond Road that connects to the northern end of the Chet Bell Trail.

Further consideration was required for the original proposal.

Alternatives	Considerations
Alternative 1 – Status Quo	• The Fire Tower and Chet Bell Trails remain designated for both cross-country skiers and

	snowmobilers.
Alternative 2 – Construct the proposed additional loop trail northeast of the Chet Bell Trail.	• Requires new trail construction in currently undisturbed section of the park. • Provides a non-motorized trail for winter use in this section of the park.
Alternative 3 – Remove snowmobile-use from the Chet Bell Trail and allow non-motorized uses only.	• Uses an existing corridor with no additional trail development. • Provides a non-motorized trail for winter use in this section of the park. • Snowmobiles continue to use Fire Tower Trail and Long Pond Road to provide through trail connection in this vicinity. • Reduces snowmobile trail mileage by 0.6 miles and eliminates small loop trail opportunity.

Preferred Alternative – Alternative 1 – Status Quo is the preferred alternative due to the Chet Bell Trail already allowing an alternate cross-country skiing route to the higher use Fire Tower Trail and the use of an already existing wide corridor that supports both trail uses.

White Lily Pond Area – Winter Use

The master plan recommends development of year-round cabins near the White Lily Pond parking area. To help promote winter use and provide access to the park's trail system, a multi-use trail, including snowmobiles, is needed for this area. Multiple alternatives were discussed to connect the cabin area to the Fire Tower Trail. The TAC previously flagged a proposed loop trail in this vicinity. The alignment of the western leg of the proposed trail will be further assessed and somewhat `straightened out' to provide a snowmobile accessible connection from the White Lily area to Fire Tower Trail including a short section of the Spruce Bog Trail. A conceptual alignment for the western leg is shown on **Figure 9**. Final alignment will be determined through future assessments. This trail as well as the eastern leg will also be open to cross-country skiing and snowshoeing.

Fire Tower Trail

The Fire Tower Trail will continue to provide access from the park to the fire tower and be part of the state snowmobile trail system. The fire tower is currently being restored and, when completed, will be open for public access. This plan recommends requesting the town to abandon the section of Fire Tower Road in the park. A fence and gate will be installed at the park boundary on Fire Tower Road to prevent unauthorized vehicular traffic. Future management and maintenance projects on this trail will partially depend on the outcome of this recommendation.

Little Johnny's Trail – stream and wetland crossing

There has been an existing need for an upgraded stream and wetland crossing at one location along this trail. This has been a challenging crossing point especially for equestrians. Various alternatives have been discussed over the years including types of crossing and/or alternate locations for the crossing. This plan recommends that the crossing be upgraded at its current alignment with a rock

bridge or boardwalk. This is a year-round multi-use trail and the crossing will accommodate all uses including for horses. Details regarding the structure type and construction plans will be determined upon further assessment.

Double Bit Path and Dam outlet crossing

The alignment for the Double Bit Path currently crosses the Martin-Dunham Reservoir Dam outlet as well as the inlet over the Shaver Pond Stream. A variety of alternatives including alternate crossing locations, upgrades to the outlet structure, and a floating bridge were explored for developing a safe trail crossing in this vicinity. The master plan is recommending a future feasibility study for establishing a suitable trail crossing. Signage will be installed and notations included on mapping to alert users of the existing trail conditions in the interim.

Water Trail

A water trail exists for Long Pond, Second Pond and Mill Pond with canoe-carries in between. Signage is either in need of repair or missing and consideration for transport of aquatic invasive species between water bodies is important. Upgrades will take place to enhance use and reduce potential impacts for use of the water trail.

Final Trails Plan

d) Trail System

Trails

The Final Trails Plan recommends approximately 26.3 miles of existing and new trails that provide a variety of trail experiences for hikers, bikers, equestrians, cross-country skiers, snowshoers and snowmobilers (see **Figure 10** for summer uses and **Figure 11** for winter uses). The trail system includes singletrack trails, wider accessible trails and wood road trails. Table 2 provides a comparison breakdown by mileage and use for the existing trail system and the Final Trails Plan.

Table 2 Comparison of Mileage by trail for use for Designated Trails

Type of use	Existing Trail System (mileage)	Final Trails Plan (mileage)***
Hiking/Snowshoeing	21.1	26.3
Equestrian	13.8	19.9
Biking	15.4	25.1
Cross-country skiing	19.6	24.4
Snowmobiling	7.9**	7.9**
Total trail mileage*	**21.1**	**26.3**

* Various trails accommodate multiple uses.
** This represents only designated trails. Park roads or areas adjacent to park roads are additionally used for snowmobiling.
*** Mileage calculations include portions of conceptual trail alignments. Final mileage calculations may differ when trails are developed.

The Final Trails Plan will increase the total mileage of designated trails from the existing trail system by 5.5 miles of trail. This calculation includes development of 1.5 miles of previously approved (2008) trails, 4.5 miles of new trail (including 0.9 miles of reroutes), designating 0.9 miles of existing corridors and closure of 1.7 miles of trail.

Table 3 below provides an inventory of trails for the Final Trails Plan by trail name, trail uses, and mileage.

Table 3 Inventory of Trails for the Final Trails Plan

Trail Name	Designated Uses*	Mileage
Beaver Lodge (BL)	H, B, SS, XC	0.27
Beechnut (BT)	H, B, E, SS, XC	1.00
Chet Bell (CB)	H, B, E, SS, XC, SM	0.59
Conklin Way (CW)	H, B, E, SS, XC	0.34
Criss Cross (CC)	H, B, SS	0.20
Crossover (CO)	H, B, E, SS, XC	0.40
Double Bit Path (DB)	H, B, E, SS, XC	1.30
Dunham Hill (DH)	H, B, SS	0.86
Fire Tower Connector (FTC)	H, B, SS, XC	0.21

Fire Tower (FI)	H, B, E, SS, XC, SM	0.90
Fishing Access (FA)	H, B, E, SS, XC	0.27
Fruit Loop (FL)	H, B, E, SS, XC, (SM)	0.66
Gartler's (GA)	H, B, E, SS, XC, SM	1.40
Granville Hicks (GH)	H, SS, XC	0.21
Hicks Beltway (HB)	H, B, E, SS, XC, SM	0.19
Little Johnny's (LJ)	H, B, E, SS, XC, SM	2.33
Long Pond Connector (LPC)	H, B, SS, XC	0.19
Long Pond (LP)	H, B, SS, XC	2.53
Mill Pond (MP)	H, B, E, SS, XC	0.47
NIMO (NM)	H, B, E, SS, XC, SM	1.00
Perkins (PK)	H, B, E, SS, XC	0.84
Power Line (PL)	SM	0.51
Rabbit Run (RR)	H, SS	0.37
Red Eft (RE)	H, B, E, SS, XC	0.61
Scout (SC)	H, B, E, SS, XC	0.38
Shaver Pond Nature (SN)	H, B, E, SS, XC	0.14
Shaver Pond (SP)	H, B, E, SS, XC	2.00
South Dunham (SD)	H, B, E, SS, XC	1.52
Spruce Bog (SB)	H, B, E, SS, XC, (SM)	2.55
Water Tower (WT)	H, B, SS, XC	0.87
White Lily (WL)	H, B, E, SS, XC, SM	0.74
Wildwood (WW)	H, B, E, SS, XC	0.25
Woodland Nature (WN)	H, SS, XC	0.23
	Total	26.3

Designated Uses: H (Hiking), B (Biking), E (Equestrian), SS (Snowshoeing), XC (Cross-country skiing), SM (Snowmobiling)
*Uses noted in ( ) indicate only a portion of that trail is open to the use.

Connections

External systems

The Grafton Lakes State Park trail system has existing external connections to other trail systems. There are two unmaintained town roads along the northern boundary of the park that provide multi-use connections to the New York State Department of Environmental Conservation's (DEC) Pittstown State Forest, which has many miles of currently unmaintained multi-use trails. Volunteers from the Saratoga Mountain Bike Association (SMBA) recently signed an Adopt-A-Natural-Resource Agreement with DEC to become stewards of the State Forest and help maintain the trail system. Signage will be improved to highlight these connections. OPRHP is willing to work with Rensselaer Polytechnic Institute (RPI), which owns property directly adjacent and north of the park, to explore options for trail easements to potentially make additional connections to Pittstown State Forest.

Snowmobile trails in Grafton Lakes State Park are part of the larger statewide snowmobile trail system which connects to Cherry Plains State Park and also extends through Pittstown State Forest. Dyken Pond Environmental Center is located within a few miles of the park and offers miles of hiking only trails. An on-road connection can be made between Grafton and Dyken Pond trails.

Mass Transportation

During the summer months the park is accessible from Troy by bus operated by the Capital District Transportation Authority. The park and region will work with CDTA on increasing publicity and enhancing visibility of bus stops for this route and to consider extending bus service throughout the year.

Organized Trail Events

Two large recreational events are annual traditions at the park. The nationally known Xterra Triathlon brings triathletes from all over the country in mid-July. The 5k Run for the Roses benefits the Grafton Community Library while filling the park with hundreds of community residents the second Sunday in August, and it just completed its 25th run.

e) Support Facilities

Trailhead Signage and Kiosks

It is important that trail users have access to information regarding trails to enhance their experience. Trail information can be disseminated in a wide variety of formats, including kiosks, brochures, websites, guidebooks, and on-trail signs and blazes. But even with good trail guides and websites available, trail signage is indispensable. If trail users are uncertain about trail location or direction, they may become disoriented, or they may create new trails that damage the environment and become a challenge to rehabilitate.

A standardized sign system is a means of creating a cohesive and consistent image for the Park, enhancing its overall appearance, and providing simple guidelines that managers can follow to sign trails. The design and usage of all trailhead and kiosk signage and trail markers will be guided by the *Trail Signage Guidelines for the New York State Park System (**http://www.nysparks.state.ny.us/recreation/trails/technical-assistance.aspx**)*. This document includes information on naming and assessing trails, etiquette and safety, materials and techniques, trail symbols, types of signage, kiosks, sign maintenance, and other resources.

A kiosk or similar structure providing information about the park and the trail system will be located at each trailhead. All trails will be named and marked with colored blazes located on trees or other structures at a height that will reduce the level of vandalism but that is still readily visible. Existing signs and kiosks at trailheads that are in disrepair or outdated will be updated and improved to enhance visitor orientation and safety. Information regarding the surface conditions of the trail will be provided on trailhead signage so as to give users a better understanding of the expected experience.

All cross-country ski trail difficulty level markers will be removed throughout the park. Additional signage will be installed to educate users on proper winter trail use etiquette, such as, cross-country skiers to the right and snowshoers to the left and the requirement of snowshoes for hiking on trails in winter.

Parking and other support facilities

Table 4 identifies the existing parking facilities and capacities for the park that provide access to the trail system. The table includes some proposed changes to the existing system regarding trailer parking locations. The location of these facilities throughout the park encourages the distribution of trail users which results in disbursed use and an enhanced trail experience.

Table 4 Parking Facilities

Parking Area	Capacity	Horse Trailer Parking	Snowmobile Trailer Parking
Beach	555 and 20 ADA	Yes (except during high-use season)	Yes
Rabbit Run	90	Yes	No
Deerfield	90 and 5 ADA	Yes	Yes
Mill Pond	No formal delineation	Yes	No (proposed)
Second Pond Boat Launch	No formal delineation	Yes (across road)	Yes (across road)
Long Pond Boat Launch (north end)	No formal delineation	Yes	No
Shaver Pond Nature Center	No formal delineation	No	No
White Lily Pond	No formal delineation	Yes (proposed)	Yes (proposed)
Maintenance Area/Park Office	No formal delineation	No	Yes
Entrance booth on Park Way	Minor trailhead parking	No	No
Dunham Reservoir North (at Double Bit trailhead)	Minor trailhead parking	No	No
Dunham Reservoir North (at S. Dunham trailhead)	Minor trailhead parking	No	No
Dunham Reservoir South (at Double Bit trailhead)	Minor trailhead parking	Yes	No
Dunham Reservoir South (at S. Dunham trailhead)	Minor trailhead parking	Yes (proposed)	No
Gartler's trailhead	Minor trailhead parking	No	No
Shaver Pond Fishing Access	Minor trailhead parking	No	No
Stone House	Minor trailhead parking	No	Yes
Fire Tower trailhead along Long Pond Road	Minor trailhead parking	No	No

Details regarding number of additional spaces and delineation of spaces for proposed changes to the existing parking facilities will be determined in the future with further site design. The new nature center will act as a warming hut for winter trail use (see master plan).

Signage will be installed at the beach area parking lot noting that horse trailer parking is not allowed during the high-use summer season. Hitching posts will be installed at various locations throughout the park to accommodate equestrian users. Locations include: the Fire Tower, each outhouse location, and future interpretive kiosks or signage near the Mill Pond and Hick's Beltway cemeteries.

f) Interpretation and Education

Grafton Lakes State Park includes a wide variety of cultural, historical, and natural resources. Current environmental education and interpretative programming provides experiential learning opportunities throughout the park. Programming serves summer camps, beach visitors, community residents, schools and other community organizations.

Trails are used throughout the year for various programs. During spring, many school programs utilize the trail system for accessing water bodies. Pre-kindergarten through third graders are the primary ages that come to the park for the popular amphibian life cycle programs. The park raises trout from October through April, when they are stocked into Shaver Pond with the assistance of local school classes participating in Trout Unlimited's Trout in the Classroom program. Interpretive nature hikes on various themes, including environmental history, are offered throughout the year. In the winter, snowshoe hikes, full moon snowshoe hikes, animal tracking and winter birding programs are offered regularly.

The park offers a few self-guided interpretative trail opportunities. Nature interpretative signs are posted along the accessible trail that begins on the north side of Long Pond beach. There are two trail guides that have recently been revised and follow identification posts along the Shaver Pond Nature Trail and Woodland Nature Trail. Interpretative signage is also located at the Granville Hicks Trailhead.

The master plan recommends development of a new nature center in the vicinity of the main parking area and beach near the Woodland Nature Trail. Due to the location and scope of the new nature center, expanded interpretative and educational programs would reach a larger audience and include a wider variety of topics. The trail system will play an integral role in expanded programming.

Increased access and interpretation are recommended for the cemeteries located in the park as well as for the fire tower. Scenic vistas that have been identified as potential locations for interpretive signage or as destination locations include views of Long, Shaver, and White Lily Ponds, the beaver lodge on Second Pond, Dunham Reservoir and within the fire tower (once restored). Interpretation of the cultural, historical and natural resources of the park will be provided through guided and self-guided tours and installation of kiosks and interpretive signage.

Educational signage about invasive species will be installed at key access locations to the Shaver Pond Trail and at canoe/kayak launch sites at each pond. Equestrian use and proper disposal of horse droppings especially around Shaver Pond will be addressed. Boat washing stations will be installed at key locations as well.

g) Coordination

Operation and management of the trail system involves a wide variety of activities that include the need to:

- Oversee basic maintenance of trails, support facilities, and amenities
- Ensure that special events will be a compatible and environmentally sustainable use of trails and that event participants are aware of expectations
- Ensure enforcement of rules and regulations along trails
- Establish and oversee regular trail patrols to monitor trail use and conditions and to educate and assist users
- Provide trail information to the public
- Assist with search and rescue operations
- Ensure that trail design, construction and maintenance is compatible with natural resources
- Limit the impact of invasive species due to trail use
- Ensure remediation of trails or sections of trail that are considered unsustainable
- Maintain contact with all staff involved with trail operations
- Act as liaison with public agencies and private organizations
- Provide outreach to additional organizations to assist with operation and maintenance of the trail system
- Develop a process to evaluate and modify the trail system
- Develop a training program for trail stewards
- Otherwise implement this plan

The park manager will continue to coordinate trail maintenance and management efforts in association with other park staff, and volunteer groups, such as the Trail Advisory Committee, the Friends of Grafton Lakes State Park, and regional scout groups among others. It is recommended that volunteer groups sign a written Memorandum of Agreement (or Adopt-A-Trail agreement) with OPRHP for trail development and maintenance purposes (see **Appendix 2** – Sample Memorandum of Agreement). This will help establish roles and responsibilities for the continued maintenance of the trail system.

In addition, it is recommended that volunteer groups submit an "Annual Project Work Plan" form (see **Appendix 3**) to the park manager for approval of all trail work beyond standard maintenance practices. This plan recommends that the OPRHP Regional Natural Resource Steward continue to be involved in the trail development and maintenance work programs in the park in terms of work schedules and timing of projects.

Volunteer groups should meet periodically with park staff and help provide a coordinated approach to maintaining and improving the trail system. Continued coordination with and participation by a variety of organizations and user groups is recommended to assist park staff with the operation and maintenance of the trail system. Any existing agreements should be maintained and new partnerships developed with trail organizations and user groups.

As funds are made available, improvements will be made by OPRHP. Trail groups may also provide funding or resources to make improvements to the trail system. Prioritization of trail building activities will occur on an annual basis and be coordinated through the park manager.

h) Park Rules and Enforcement

Visitors to the park are expected to follow general park rules. These rules are as follows:

- The park opens at sunrise and closes at sunset.

- Carry out and take home everything you bring with you. Maintaining a quality trail experience requires keeping the trails free of litter and the environment undisturbed. Collection of plants and animals is prohibited.
- Remain on trails for your own safety and to minimize impact on the natural surroundings.
- Trails are designed to be used by many different outdoor enthusiasts. For the safety of all users, please exercise safety and caution when approaching other users. For instance, bikers should sound a warning when approaching pedestrians.
- Dogs Must Be Kept on a Leash, No Longer Than 6' Long.
- Park in Designated Areas Only.

These rules will be posted on trailhead kiosk panels to promote appropriate use of park facilities.

Trail users are expected to obey all New York State Parks Rules and Regulations and any park specific signage as posted. Problems or concerns regarding the trail system should be reported to the park office. Emergencies, such as injuries, hazardous situations or criminal activity, should be reported directly to the park police. The park police are responsible for the enforcement of park rules and regulations. However, park staff rely on user groups to be self-watching and alert park officials of any concerns.

i) Special Events – Permits

A permit is required for any organized event or outing within the park, including those that use park trails. This helps limit trail use to a level that is environmentally sustainable and ensures that event participants are aware of their responsibilities. For additional information or to obtain a permit application, please call (518) 279-1155.

j) Implementation

Implementation of this plan will be guided by staff and volunteer knowledge of trails, the trail assessment information collected in 2010-11 and the agency's standards and guidelines for trails which are located in **Appendix 1**.

Trail work proposals as submitted on the Annual Project Work Plan – Trails form (**Appendix 3**) will be reviewed by the Park Manager for consistency with this Trails Plan. All trail work beyond standard maintenance practices (blazing, clearing brush from treadway/tree pruning and maintaining erosion control structures) on existing designated trails must be approved prior to commencement of work. For many trails, OPRHP partners with trail organization(s) for development and/or maintenance. It is important that clear lines of communication are maintained among all involved parties. The Park Manager will meet with Trail Groups on an annual basis, at minimum, to discuss proposed trail development/maintenance plans and review the consistency of those plans with this Trails Plan. The Trail Advisory Committee will remain an integral partner in the development and maintenance of the trail system.

If a trail proposal is not within the scope of this Trails Plan then additional review, including environmental review, may be required. In these circumstances the Manager will consult with Regional and Albany office staff regarding next steps.

Prior to trail construction, review of final trail layouts will be conducted 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. Trail construction will follow the policies and guidelines for trail building that have been established by recognized trail

organizations and government agencies (Refer to Appendix 1). The Park Manager will be responsible for periodic inspections of all trail projects to ensure that they are being carried out in accordance with approved plans.

Improvements and reroutes should generally be completed prior to expanding multiple use opportunities. Priority is generally given to basic maintenance and rehabilitation of existing trails, as well as, trail re-routes and closures to correct unsustainable conditions and/or to protect sensitive environmental areas. Priorities for new trails will be based on availability of funding and resources.

The following projects have been identified as **Phase I priority projects** for the Trails Plan implementation. The prioritization process considered safety, highest use areas and ecological concerns. Prioritization of all remaining trail projects will be determined in the future.

Phase I priorities:
- Blazing and installation of signage and kiosks
- Little Johnny's Trail bridge or boardwalk construction
- Long Pond Trail upgrades
- Hicks Beltway – ditching, regrading and drainage swales
- NIMO Trail upgrades and trail extension to park office for snowmobile use (includes bridge construction over Second Pond outlet)
- Shaver Pond Trail upgrades
- Spruce Bog Trail reroute

Existing undesignated trails that have been identified for designation will be improved and utilized as much as possible in the implementation of this trails plan. Trails (new trails and rerouted sections of trails) will be designed to protect the natural resources of the parks. Sensitive ecological areas will be considered during new trail alignments. Rerouted sections will be closed using appropriate closure techniques as laid out in the *OPRHP Guidelines for Closing Trails*. Undesignated trails that are not part of the proposed trail system will also be closed. Additional signage in the form of trailhead and trail intersection signs as well as kiosks at main parking areas will be developed to improve the overall trail signage system, visitor orientation and to encourage visitors to remain on trails. Signage will be developed in conjunction with the *Trail Signage Guidelines for the NY State Park System*. Both documents can be found on the OPRHP website at: **http://www.nysparks.state.ny.us/recreation/trails/technical-assistance.aspx**.

New trails and altered trails connected to an accessible trail or designated trailhead should be designed to improve accessibility for persons with disabilities. The existing trail system will be assessed to determine whether the trails meet accessibility guidelines and actions that need to be taken to make the trails accessible, if appropriate and feasible. Informational material will be provided at trailhead kiosks and in trail brochures identifying the characteristics (i.e. slope, terrain, etc.) of the trails.

In order to provide guidance on implementation of this plan for park staff and volunteer groups, the following table provides a listing of all existing and new trails and specific actions that were identified during the planning process with regard to maintenance, rehabilitation, re-routing or additional construction of each trail.

Table 5 Implementation Steps for Trails at Grafton Lakes State Park

Trail Name	Blaze	Allowed Uses	Mileage	Implementation Steps
Beaver Lodge (BL)	TBD	H, B, SS, XC	0.27	• Determine final trail alignment. • Clearing and tread construction required (develop trail to meet federal accessibility guidelines); mark trail. • Develop a viewing platform along Long Pond.
Beechnut (BT)	TBD	H, B, E, SS, XC	1.00	• Determine final trail alignment (short section appears to cross park boundary; consider best placement for a number of seasonal stream crossings). Assure final alignment accommodates all non-motorized trail uses. • Clearing and tread construction required; mark trail
Chet Bell (CB)	Yellow	H, B, E, SS, XC, SM	0.59	• Water management and erosion control techniques, such as development of knicks and rolling grade dips, could be used to reduce erosion and wet areas along this trail.
Conklin Way (CW)	TBD	H, B, (E), SS, XC	0.34	• Determine final trail alignment between existing Deer Run and Shaver Pond Trails. This trail will consist of formerly Deer Run Trail and the new trail section. • Connectors will be developed between the Deerfield pavilion and the Conklin Way trailhead as well as the playground area and the former Deer Run Trail to the west of the playground. These connector trails will allow for easier access and visibility of the trail system. The section to the north of the playground will be closed.
Criss Cross (CC)	Red	H, B, SS	0.20	• Replace any flagging with markers. • One section of trail requires additional clearing and defining of the trail corridor.
Crossover (CO)	Tan	H, B, E, SS, XC	0.40	• Monitor the bridge crossing for needed repairs. • Upgrade trailhead and intersection signage. • Remove widow maker near intersection with Spruce Bog.
Double Bit Path (DB)	Red	H, B, E, SS, XC	1.3	• Conduct feasibility study for reservoir outlet trail crossing. Notify public through signage and maps of existing trail conditions (no outlet trail crossing) in interim. • Install blazing in areas with insufficient markers. • Remove numerous fallen trees and widow makers. • Install directional signage or continue blazing between this and Gartler's Trail to show the connectivity of the trail system.
Dunham Hill (DH)	TBD	H, B, SS	0.86	• Determine final trail alignment. • Clearing and tread construction required; mark trail
Fire Tower Connector (FTC)	Not marked	H, B, SS, XC	0.21	• Determine final trail alignment for reroute. • Clearing and tread construction required; mark trail • Close original alignment. • Install directional signage for Fire Tower when opened.

Fire Tower (FI)	White	H, B, E, SS, XC, SM	0.90 (on park property); 1.24 total	• Request town abandonment of Fire Tower Road within park. • Install fence and gate at boundary. • Remove flagging and install markers along one section. • Water management and erosion control techniques, such as development of knicks and rolling grade dips, could be used to reduce erosion and wet areas along this trail. • Work with town on major drainage issues near park boundary.
Fishing Access (FA)	Yellow	H, B, E, SS, XC	0.27	• Water management and erosion control techniques, such as development of knicks and rolling grade dips, could be used to reduce erosion and wet areas along this trail.
Fruit Loop (FL)	TBD	H, B, E, SS, XC, (SM)	0.66	• Determine final trail alignment including spur trail to Trail Riders parcel. • Clearing and tread construction required; mark trail • Tread and bank stabilization required at stream crossing.
Gartler's (GA)	Yellow	H, B, E, SS, XC, SM	1.40	• Install trailhead signage at the parking area on Route 2. • Install blazing where insufficient. • Section of trail southeast of blueberry fields will require significant fill, drainage and grading. • Water management and erosion control techniques, such as development of knicks and rolling grade dips and installation of culverts, could be used to reduce erosion and wet areas along this trail. • Install directional signage between this trail and Double Bit and South Dunham trails to show trail system connectivity.
Granville Hicks (GH)	White	H, SS, XC	0.21	• Remove numerous fallen trees and widow makers. • Install rustic-looking viewing platform at Shaver Pond.
Hicks Beltway (HB)	White	H, B, E, SS, XC, SM	0.19	• Ditching, regrading and installation of drainage swales required to deal with erosion issues. • Install signage to show trail connectivity to Pittstown State Forest.
Little Johnny's (LJ)	Tan	H, B, E, SS, XC, SM	2.33	• Construct bridge or boardwalk at major stream/wetland crossing. • Monitor smaller stream crossing for necessary upgrades. • Install blazing where insufficient; reattach blazing where markers are misplaced on trees (markers should be seen by oncoming trail users and not placed facing the trail tread itself). • Remove numerous widow makers. • Install intersection signage including directional signage at junction with Long Pond Extension Trail to indicate Pittstown State Forest. • Water management and erosion control techniques, such as development of knicks and rolling grade

				dips and installation of culverts, could be used to reduce erosion and wet areas along this trail. • Reestablish outslope in areas where water is standing on trail.
Long Pond Connector (LPC)	TBD	H, B, SS, XC	0.19	• Monitor water flow with upgrades of the NIMO Trail and utilize water management techniques when necessary.
Long Pond (LP)	Orange	H, B, SS, XC	2.53	• Install markers where insufficient. • Remove fallen trees and widow makers. • Where small streams or seeps cross the trail, consider constructing rock culverts (open or closed), tread hardening techniques (rock armoring or large stepping stone placement*(see note below)) or construction of boardwalks or bog bridges. In some cases, minor reroutes may be required.
Mill Pond (MP)	Yellow	H, B, E, SS, XC	0.47	• Remove widow maker. • Reestablish outslope where water is standing on trail.
NIMO (NM)	Red	H, B, E, SS, XC, SM	1.00	• Upgrade tread for year-round multiple uses. Will require clearing rocks from tread and fill and culvert work. • Monitor existing culverts; some erosion was noted along the tread.
Perkins (PK)	White	H, B, E, SS, XC	0.84	• Consider developing turnpikes to alleviate muddy conditions along existing trail. • Determine final trail alignment of extension to Route 2. • Clearing and tread construction required; mark trail • Install Route 2 crossing markings and other recommendations per the master plan.
Power Line (PL)	TBD	SM	0.51	• Clear trail tread of debris (fallen trees, rocks and vegetation). Do fill and culvert work if needed. • Construct bridge over Second Pond outlet. • Mark trail.
Rabbit Run (RR)	TBD	H, SS	0.37	• Utilize existing trail alignment where possible while providing a buffer between trail and shoreline. • Remove fallen trees and widow makers. • Mark trail.
Red Eft (RE)	TBD	H, B, E, SS, XC	0.61	• Determine final alignment for short reroute and connect to Perkins Trail. • Upgrade seasonal stream crossing near reroute intersection. • Clearing and tread construction required; mark trail • Close original alignment.
Scout (SC)	White	H, B, E, SS, XC	0.38	• Determine final alignment for reroute. • Clearing and tread construction required; mark trail • Close original alignment.
Shaver Pond Nature (SN)	Tan	H, B, E, SS, XC	0.14	• Repair or replace intersection signage with Shaver Pond Trail.
Shaver Pond (SP)	Red	H, B, E, SS, XC	2.00	• Reestablish the out slope in a number of wet areas. • Water management and erosion control techniques,

				such as development of knicks and rolling grade dips, could be used to reduce erosion. • Reset numerous uplifted or crushed culverts along the trail; provide adequate fill over culverts to hold them in place and protect structural integrity. • Upgrade trail to meet federal accessibility guidelines as is feasible in conjunction with trail connection to future nature center (see master plan); consider realigning sections of trail along eastern side, where feasible, to create wider buffer between the trail and Shaver Pond.
South Dunham (SD)	Orange	H, B, E, SS, XC	1.52	• Install markers where insufficient. • Remove fallen trees and widow makers. • Remove snowmobile signage along trail. • Determine final alignment for reroute of southern section. • Clearing and tread construction required; mark trail. • Close original alignment. • Water management and erosion control techniques, such as development of knicks and rolling grade dips, could be used to reduce erosion on the northern section; consider rerouting if water management techniques fail. • Monitor stream crossings.
Spruce Bog (SB)	Orange	H, B, E, SS, XC, (SM)	2.55	• Remove widow makers. • Further assess trail alignment for eastern section of reroute; assure alignment accommodates all designated uses with adequate corridor width. • Clearing and tread construction required; mark trail. • Close original alignment. • Monitor stream crossings. • Upgrade eastern section of trail for snowmobile use in conjunction with development of the White Lily Trail.
Water Tower (WT)	Yellow	H, B, SS, XC	0.87	• Consider installing directional signage at the main park area directing patrons to access the trail system via the park road. • Remove fallen trees and widow makers. • Install markers where insufficient. • Remove blazes from original alignment of very short rerouted section. • Trail alignment may be impacted when camping site design takes place (see master plan).
White Lily (WL)	TBD	H, B, E, SS, XC, SM	0.74	• Determine final trail alignment that accommodates designated uses; consider seasonal stream crossings and wet areas carefully. • Clearing and tread construction required; mark trail. • Further research the feasibility and appropriate location for a potential bird viewing platform or boardwalk along the southeast section of the pond.

Wildwood (WW)	Orange	H, B, E, SS, XC	0.25	• Install markers where insufficient.
Woodland Nature (WN)	Tan	H, SS, XC	0.23	• Upgrade trail to meet federal accessibility guidelines with nature center development (see master plan).
Total Mileage**			**26.3**	

Types of Use: H (Hiking), B (Biking), E (Equestrian), SS (Snowshoeing), XC (Cross-country skiing), SM (Snowmobiling).
**Uses noted in ( ) indicate only a portion of that trail is open to the use.*
*** Mileage calculations include portions of conceptual trail alignments. Final mileage calculations may differ when trails are developed.*

With the creation of the park preservation area for all of the park south of Route 2 (excluding the C9 corridor), snowmobiling will continue to be allowed along Gartler's Trail and a short section of the Fruit Loop Trail from the Route 2 entrance. Snowmobiling is considered illegal on any other portion of the park south of Route 2 including the Dunham Reservoir itself. Signage will be installed to inform the public of this.

General trail system recommendations

Upgraded or new trailhead signage is needed at all trailheads (see Trailhead Signage and Kiosks section – page B-24). Intersection signage will be developed using a numbering or grid system to provide a safer and more organized trail system. Local law enforcement and emergency response agencies will be provided with updated trail maps and information. Directional signage will be placed at key points in the park to highlight destination vistas or resources, such as the Fire Tower, views of Long, Shaver Pond and White Lily Ponds, and cemeteries.

Recommendations regarding marking trails from the *Trail Signage Guidelines for the NYS Park System* include:
• Use aluminum nails for attaching markers. Aluminum resists corrosion better than other metals and will not damage a saw when a future cut is made across a hidden nail.
• When driving nails into trees, be sure to leave a sufficient length protruding (approximately ½ inch) to allow for future tree growth. An exception can be made in areas of frequent vandalism or theft.
• Place waymarks at eye level of the user, when possible. Eye level will be different depending on the type of trail user and amount of snow cover. (Waymarks should be placed higher on horse and cross-country ski trails.)
• Be sure to mark trails in both directions, first from one direction and then from the opposite direction, in order to gain each perspective. It may not be appropriate to simply put markers on opposite sides of the same tree.
• Trails need to be continuously marked, including when they follow roads. Mark trails such that the next waymark is clearly visible from the previous one. However, avoid placing waymarks so that more than one is readily obvious from the previous. One wellplaced blaze or marker is better than several poorly placed blazes or markers.
• Be sure to keep vegetation pruned from in front of waymarks at all times, sufficiently allowing for summer growth.

• A double blaze, one above the other, signifies a sharp turn in the trail. Double blazes may be offset to signify the direction of the turn such that  signifies a right turn and  signifies a left turn.

During trail assessments, it was noted that in a number of areas on the Long Pond Trail numerous rocks had been placed at wet areas to provide stepping stones for trail users. Unfortunately, the size and placement of the rocks is causing water to pool in these areas further exacerbating the issue. Very large rocks that require carrying by four people with a sling or the use of mechanized equipment is required. Rocks need to be placed deep in the ground to maintain stability and channels for water flow need to be incorporated into the armoring process. For additional information, refer to trail development and maintenance manuals listed in Appendix 1.

Water Trail

The water trail that exists for Long Pond, Second Pond and Mill Pond will be better publicized. Signage will be installed to highlight the opportunity and the water trail will be noted on park trail maps. Directional signage for water trail carry routes will be upgraded. Invasive species removal stations, along with educational signage regarding aquatic invasive species, will be installed to alert water trail users to the necessity of removing invasive species such as Eurasian water milfoil from boats when docking and between uses.

k) Monitoring and Future Development

The following guidelines will be utilized in the implementation of a monitoring system and the approval process for future modification of this plan.

Monitoring Program

A monitoring program will be developed to monitor trail conditions. A monitoring program will include an annual inspection of all trails and periodic inspections of trails throughout the year. Volunteers may aid in this process in many cases. The monitoring program should include:

- Monitoring trail use to avoid user conflicts and to ensure sustainability.
- Monitoring trail conditions, educating trail users, and utilizing other methods to identify and report the locations of invasive species.
- Where overuse is occurring, providing remediation through the use of water control and trail hardening techniques, by relocating sections of trail, and/or by limiting trail use.

Future Trails Development

Proposals for modification of the Grafton Lakes State Park trail system beyond what is specified in this plan will be evaluated by the Park Manager in consultation with the trails planning unit. All future proposals for trail development projects, including the relocation of existing trails, development of new trails, and new uses of existing trails, may need to go through a formal review process. Routine trail maintenance does not need to be addressed within this process. The scope and associated impacts of the proposed project on natural and cultural resources will determine the extent of the review process. In most cases, park-level review is sufficient. In some

cases, a more extensive environmental review will be required under the State Environmental Quality Review Act (SEQR).

I) Environmental Review

This Final Trails Plan, as an appendix to the Grafton Lakes State Park Final Master Plan, is the subject of an environmental review process under the State Environmental Quality Review Act (SEQR). Environmental impacts are addressed in Chapter 7 of the Master Plan. For the purposes of SEQR compliance, the entire Final Master Plan/ Final Environmental Impact Statement satisfies the requirements for an environmental impact statement as specified in Part 617, the rules and regulations implementing SEQR.

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Appendix 1

Trail Standards and Guidelines

A primary goal for all State Park Trails Systems is to develop sustainable trails that have minimal impacts on the environment, require little maintenance, and meet the needs of the users. Standards and guidelines are provided here for design, development, and maintenance techniques that help ensure a sustainable trail system, including guidelines for design and accessibility, trail monitoring, and trail closure.

1. Design

Trails should be developed using appropriate design standards based on desired uses. Considerations should be made for either a single or multiple treadway, tread width and surface, corridor and vertical clearance, sight distance, grades, and turning radius to provide an appropriate trail experience for expected users and levels of use.

Trail development and maintenance will be guided by design standards as provided in the table below for various types of uses. These standards should be used as a starting point and modified as necessary to address the natural characteristics of the resource and specific needs.

Trail Development Standards

Trail Type	Vertical Clearance	Corridor Clearance	Treadway Width	Surfacing Materials	Trail Length	Sight Distance	Slope	Turning Radius	Users / Mile
Mountain Biking	8-10 feet	1.5 – 6 ft. (1 lane)	Novice-36 in. Intermediate -24-30 in. Advanced-12-18 in.	Firm natural surface including soil, rocks, wood; hardened surface for wet areas.	Min. – 5 mi. loop (1.5-2 hour) 15-25 mi. of linear or loop trails (day trip)	Min. of 100 ft. up to 150 ft. on downhill curves or road crossings	Over all grade not to exceed 10%. Climbing turns not to exceed 7-12%. Out slope of 3-5%	Novice/ Intermediate - 8 ft. min. Advanced – 6 ft min.	10
Cross-country Skiing	8-10 ft. above snow depth. (10-12 ft in summer)	8 ft (1 lane) 10-12 ft. (2 lane)	4-6 ft. (1lane) 7-8 ft. (2lane) 8-10 ft. (up and down hill)	Snow with underlying bare soil, rocks or wood chips. Outsloped underlying material. Can be groomed or ungroomed.	0.5-3 mi. loops up to 4-8 mi. (2-4 hour trip)	Down hill runs, stream or road crossings 50 ft. Otherwise not critical	0-5% Max – 10% sustained 15-25% shorter than 50 yd. 25-40% shorter than 50 yd., experts only Outslope – 0-2%	Avoid sharp turns. Never locate a turn at the base of a downhill run. Min. - 50 ft. Preferred – 100 ft.	5-30
Hiking (Developed Interpretive, group or connector)	8-10 ft	4 –8 ft	4-6 ft	Bare soil, rocks, stone dust, or wood chips. May have hardened surface (concrete, asphalt or boardwalks) in high use areas.	0.25 – 5 mi. (1/2 day) 5-15 mi. (full day)	Not critical barrier on reverse curves may be used	0-5% Max – 15% sustained 40%+ shorter than 50 yd. Outslope – 4% max	N/A	1-30
Hiking (Primitive Back-packing)	8-10 ft.	4-6 ft.	18 –30 in.	Bare soil, rocks, gravel, wood; hardened surface for wet areas.	Min – 5 mi. 5-15 mi. (full day) 15 – 25+ mi. (multi-day)	Not critical	1-5% Max - 15% sustained 40-50% shorter than 50 yd.	N/A	1-5
Snowshoe	8-10 feet above snow depth (10-12 ft. in summer)	8 ft. (1 Lane) 10-12 ft. (2 Lane)	4-6 ft. (1 Lane) 7-8 ft. (2 Lane) 8-10 ft. up and down hill	Snow with underlying bare soil, rocks or wood chips. Outsloped underlying material. No grooming is needed.	0.3 mi. loops; 4-8 mi. (2-4 hr. trips)	N/A	0-5% Max. - 10% sustained 15-25% shorter than 50 yds. for experienced snowshoers	N/A	5-30
Horse	10-12 ft.	5-6 ft. (1 lane)	18-30 in. (1 lane)	Soils having a large percentage of rocks, clay and/or organic matter. Void of rocks football sized or larger. Little treadway development required if soils are appropriate. In problem areas, water control measures may be installed. Brush and saplings should be cut flush or below ground level. Remove dead or leaning	Min – 5 mi. (1-1.5 hours) 15-25 mi. of looped trails (full day)	Not critical unless 2 way traffic. 50-100 ft. 100-200 ft. at motorized road crossings.	0-10% Max – 10% sustained 20% shorter than 50 yd. Outslope 4% max.	Min. 6 ft. Wider turns preferred.	5-15

				trees.					
Snowmobile	8-12 feet above snow depth	1A - 14- 16 ft. 1B - 14-16 ft. C - 8-12 ft. D - 8 ft. min.	1A – 12 ft. 1B – 8-12 ft. C – 4-8 ft. D – 4ft. min.	Groomed snow Groomed snow Groomed snow Ungroomed snow	50 – 80 mi.	Min – 50 ft. 100+ ft.	10 – 15% Max - 25% sustained 40% shorter than 50 yd.	Min. 50 ft. 100 ft.	15

2. Accessibility

New trails and altered trails connected to an accessible trail or designated trailhead should be designed to improve accessibility for persons with disabilities. Trail conditions, including topography, geology, and ecology, and expected experience will limit the number of fully accessible trails. The *Draft Final Accessibility Guidelines for Outdoor Developed Areas* (AGODA), published in 2009 by the federal Architectural and Transportation Barriers Compliance Board ("Access Board"), contains the most recent standards used to design and construct pedestrian trails to be accessible, and to assess accessibility. There are some departures permitted from the technical provisions. Although the AGODA only applies to federal agencies or for trails that are designed or constructed using federal funds, OPRHP will follow the proposed guidelines as closely as practicable and apply standards consistently on all State Park pedestrian trails. For further details, refer to the AGODA at **http://www.access-board.gov/outdoor/index.htm**. The following is an abbreviated listing of the proposed standards without the exceptions:

- Surface – The trail surface shall be firm and stable.
- Clear Tread Width – The clear tread width of the trail shall be 36 inches minimum.
- Openings – Openings in trail surface shall be of a size that does not permit passage of a ½ inch diameter sphere. Elongated openings shall be placed so that the long dimension is perpendicular or diagonal to the dominant direction of travel.
- Protruding Objects – Protruding objects on trails shall have 80 inches minimum clear head room.
- Tread Obstacles – Where tread obstacles exist, for concrete, asphalt or boards, they shall not exceed ½ inch in height; for all other surfaces, they shall not exceed 2 inches in height.
- Passing Space – Where the clear tread width of the trail is less than 60 inches, passing spaces shall be provided at intervals of 1000 feet maximum. Passing spaces shall be either 60 inches minimum by 60 inches minimum space, or an intersection of two walking surfaces which provide a T-shaped space provided that the arms and stem of the T-shaped extend at least 48 inches beyond the intersection.
- Slopes – Slopes shall comply with the following:
    - Cross Slopes – For concrete, asphalt or boards, the cross slope shall not exceed 1:48; for all other surfaces, the cross slope shall not exceed 1:20.
    - Running Slope – Running slope of trail segments shall comply with one or more of the provisions of this section. No more than 30 percent of the total trail length shall exceed a running slope of 1:12.
    - The running slope of any segment of a trail shall not be steeper than 1:8.
    - Where the running slope of a segment of a trail is steeper than 1:20, the maximum length of the segment shall be in accordance with the table below, and a resting interval shall be provided at each end of the segment.

Running Slope of Trail Segment		Maximum Length of Segment
Steeper than	But not Steeper than	
1:20	1:12	200 feet (61 m)

1:12	1:10	30 feet (9 m)
1:10	1:8	10 feet (3050 mm)

- Resting Intervals – Resting intervals shall be 60 inches minimum in length and shall have a width at least as wide as the widest portion of the trail segment leading to the resting interval. Where the surface is concrete, asphalt, or boards, the slope shall not be steeper than 1:48 in any direction; for all other surfaces, the slope shall not exceed 1:20 in any direction.
- Edge Protection – Where edge protection is provided along a trail, the edge protection shall have a height of 3 inches minimum.
- Signs – Newly constructed and altered trails and trail segments that are accessible shall be designated with a symbol at the trail head and all designated access points. Signs identifying accessible trail segments shall include the total distance of the accessible segment and the location of the first point of departure from the technical provisions.
- Where gates or barriers are constructed to control access to trails, gates and barriers shall provide a clear width of 32 inches minimum.

In all cases, it is recommended that basic information about trail characteristics be displayed at the trailhead. This allows the trail user the opportunity to determine if the trail is appropriate for their abilities. This information should be available for all trails regardless of whether they meet the accessible guidelines.

The following is a recommended list of information that should be displayed at the trailhead:

- Trail Symbol
- Total trail length (in linear feet)
- Length of trail segments meeting accessible standards (in linear feet)
- Location of the first point of exception to accessible standards
- Running slope (average and maximum)
- Maximum cross slope
- Minimum clear tread width
- Surface type, firmness, and stability
- Tread obstacles that limit accessibility
- Elevation (trailhead, maximum, and minimum)
- Total elevation change

3. Trail Maintenance

Maintenance of the trails is carried out by park staff in conjunction with volunteer groups. Trail maintenance standards utilize acceptable practices and methods in the maintenance of trails to the particular uses of the trails. Maintenance activities may include:

- Using established water management techniques, such as installation of knicks, rolling grade dips, or waterbars, to divert water off of a trail.
- Using established trail construction techniques to stabilize trail surfaces.
- Trimming trees and brush to maintain height and width clearances.
- Maintaining drainage structures, such as culverts.
- Maintaining bridges and other structures.
- Maintaining signage.

These activities will be coordinated with the park manager. Activities that go beyond normal maintenance will require the approval of the park manager (see *Appendix B*). Park staff will maintain the parking lots and support facilities.

The following manuals may be used as resource guides for trail development and maintenance:

- *Trail Planning, Design, & Development Guidelines*. State of Minnesota, Department of Natural Resources, 2007. Trails and Waterways Division. **http://www.dnr.state.mn.us/index.html**
- *Trail Maintenance Manual, 7th Edition Revised*. 2007. New York-New Jersey Trail Conference, Inc. **http://www.nynjtc.org/volunteers/vresource.html**.
- *Trail Construction and Maintenance Notebook*. 2007 Edition. Forest Service, US Department of Agriculture. **http://www.fhwa.dot.gov/environment/fspubs/07232806/index.htm**.
- *Lightly on the Land: The SCA Trail-Building and Maintenance Manual*. 2006. Robert C. Birkby, The Student Conservation Association. **http://www.thesca.org/**
- *Trail Solutions: IMBA's Guide to Building Sweet Singletrack*. 2004. International Mountain Bicycling Association. **http://www.imba.com/index.html**
- *Equestrian Design Guidebook for Trails, Trailheads and Campgrounds*. December 2007. US Department of Agriculture, Forest Service - Missoula Technology and Development Center. **http://www.fhwa.dot.gov/environment/Fspubs/07232816/index.htm**

4. Trail Closure

Sometimes it is necessary to close or reroute a trail due to poor initial design, overuse, illegal use, or other natural factors having caused some type of degradation. Reclamation strategies include closure, stabilization, recontouring, revegetation, and monitoring. Each site should be evaluated individually for its potential to be rehabilitated. Trail restoration needs to be carefully planned, and the consequences of each strategy should be evaluated. Restoration can be as simple as blocking a closed section of trail and passively allowing the vegetation to recover, or include more complex projects, such as removing any trace of the tread, actively planting native vegetation, and constructing check dams to help stop erosion. Careful monitoring of a restored section of trail is then needed to ensure that little evidence remains of the old trail.

All plantings will be with native, non-invasive species. Vegetation should be allowed to grow on the abandoned trail where it intersects with a designated trail. Brush, rocks and other natural material should be placed on the abandoned trail for a distance so the linear characteristic of the trail can not be readily identifiable. These abandoned trails should not be identified on trail maps.

The *OPRHP Guidelines for Closing Trails* (**http://www.nysparks.state.ny.us/recreation/trails/technical-assistance.aspx**) provides the detailed process to be taken to close trails in state parks.

Appendix 2

Memorandum of Agreement

Between
Trails Organization #1
And
Trails Organization #2
And
Trails Organization #...
And
The New York State Office of Parks, Recreation and Historic Preservation

By this agreement, #1, #2, …. and the New York State Office of Parks, Recreation and Historic Preservation confirm and acknowledge the following:

1. The _____Trail, a linear trail located within _____ State Park, is under the jurisdiction of the New York State Office of Parks, Recreation and Historic Preservation (hereinafter referred to as "PARKS"), an agency of the Executive Department of New York State government.
2. The #1, #2, and …., nonprofit trail organizations have a joint interest in the _____ Trail and in coordinating their efforts as a single group, hereinafter known as the Friends of xxxx Trail (the "FRIENDS").
3. The FRIENDS and PARKS have mutual and complimentary interests in the development and maintenance of the trails and associated facilities and program within _____ State Park.
4. The FRIENDS acknowledge that the liaison for PARKS with the FRIENDS for all programmatic and business relations shall be the Regional Director or his/her designee (hereinafter referred to as the Park Manager), who shall be invited to attend all meetings of the FRIENDS, its Board of Directors and committees. The Park Manager not serve as an ex-officio member of the Board of Directors of the FRIENDS. PARKS acknowledges that the representative of the FRIENDS for all official programmatic and business relations shall be the President of the FRIENDS or the President's designee.
5. The FRIENDS, in furtherance of its purpose to support and supplement development, maintenance, preservation and public education programs at the Park, shall keep PARKS fully informed as to its activities and plans and shall do so through the Park Manager either directly or as provided for in the By-Laws of the FRIENDS.
6. Development and maintenance activities proposed by the FRIENDS must be reviewed and approved by PARKS prior to implementation.
7. Prior to commencing any pre-approved work, each member of the FRIENDS shall sign a volunteer service form through the Park Manager, a sample of which is attached to this Agreement as Exhibit A. Such form shall be kept confidential. PARKS and the FRIENDS acknowledge that by filing a volunteer service form, the FRIENDS will receive New York State Worker's Compensation benefits for any injuries sustained during the course of volunteer work. Filing a volunteer service form also extends the protections offered pursuant to the Public Officers Law in the event they are sued with regard to their negligence during the course of their volunteer work.
8. In the event that there is an access fee to the Park, FRIENDS shall have access to the Park at no charge upon the authorization of the Park Manager, and only in connection with pre-approved volunteer work at the Park.

9. The term of this Memorandum of Understanding shall be five years. Either party may terminate this agreement at any time prior to the expiration of the five year term upon ninety(90) days' written notice to the other party. This agreement shall terminate automatically in the event of the dissolution of the FRIENDS or if the FRIENDS become incorporated within as a 501 (c) 3 organization at which time a new Agreement will be required.
10. This agreement may not be amended, modified or otherwise changed unless done so in writing and signed by both parties.

Appendix 3

Annual Project Work Plan - Trails

(Submit to Park Manager for review and approval prior to commencing work)

For ALL trail work beyond standard maintenance practices (blazing, clearing brush from treadway/tree pruning, maintenance of erosion control structures) on existing designated trails.

State Park Name: Year: 20__

Organization:
Contact Name:
Contact Address:
Contact Phone #:
Contact Email Address:

Trail Name:
Description of location of trail section to be worked on (if applicable):

GPS coordinates if available (Lat/Long):_____
(Format: Decimal Degrees; Datum (circle one): NAD27, 83 or WGS84 (preferred)

Type of work (check all that apply):
□ Re-alignment/relocation of trail section
□ New trail development (includes designating new trails)
□ Tread upgrades including installation of water management structures
□ Bridge construction/replacement
□ Trail Closure
□ Other: _____

Scope of work included in Trails Plan: □ Yes □ No (If no, requires additional review of proposal)

Description of work: (be specific including rock moving, tree cutting, trail work within 100 ft. of a water body/wetland, bridge work (*may require DEC permit*), construction of switchbacks or retaining walls, culvert and turnpike installation, etc.)

Work Schedule:

□ Attached map depicting area of work (required).
□ Digital photo (before) □ Digital photo (after)

_____

Submitted by (print name): Signature:
Date:

_____

Approved by Park Manager (print name): Signature:
Date:

Forward copy to Regional Natural Resource Steward and Capital Facilities Manager.

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C. Appendix C – Soils

Soil Descriptions

BrA—Brayton very stony silt loam, nearly level*

Component: Brayton, poorly drained (50%)

The Brayton, poorly drained component makes up 50 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions. The parent material consists of loamy till derived mainly from granite, phyllite, schist, slate, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6s. This soil meets hydric criteria.

Component: Brayton, somewhat poorly drained (35%)

The Brayton, somewhat poorly drained component makes up 35 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions. The parent material consists of loamy till derived mainly from granite, phyllite, schist, slate, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 11 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

BuC—Buckland very stony loam, sloping

Component: Buckland, very stony (75%)

The Buckland, very stony component makes up 75 percent of the map unit. Slopes are 8 to 15 percent. This component is on ridges, hills. The parent material consists of loamy till derived mainly from phyllite and schist with a small amount of limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

BuD—Buckland very stony loam, moderately steep

Component: Buckland, very stony (85%)

* All soil descriptions were generated online using NCRS Web Soil Survey (NCRS, 2010)

The Buckland, very stony component makes up 85 percent of the map unit. Slopes are 25 to 35 percent. This component is on hills, ridges. The parent material consists of loamy till derived mainly from phyllite and schist with a small amount of limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

GlC—Glover very stony loam, very rocky, sloping

Component: Glover, very stony (75%)

The Glover, very stony component makes up 75 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillsides or mountainsides. The parent material consists of loamy till derived mainly from interbedded schist and phyllite. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

GlD—Glover very stony loam, very rocky, moderately steep

Component: Glover, very stony (75%)

The Glover, very stony component makes up 75 percent of the map unit. Slopes are 15 to 25 percent. This component is on hillsides or mountainsides. The parent material consists of loamy till derived mainly from interbedded schist and phyllite. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

LoA—Loxley and Beseman mucks, 0 to 1 percent slopes

Component: Loxley (60%)

The Loxley component makes up 60 percent of the map unit. Slopes are 0 to 1 percent. This component is on swamps, marshes. The parent material consists of organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during February, March, April, May, November, December. Organic matter content in the surface horizon is about 75 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria.

Component: Beseman (25%)

The Beseman component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions. The parent material consists of organic material over loamy glacial drift. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 0 inches during February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 62 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria.

Soil Limitations

The soils of the survey area are rated in this table according to limitations that affect their suitability for various recreation types. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in the table can be supplemented by other information, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp Areas, Picnic Areas, and Playgrounds

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, Ksat, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and

not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, Ksat, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, Ksat, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, Ksat, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, Ksat, and toxic substances in the soil.

Paths and Trails

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodability. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer. *Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodability, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Figure 1 Selected Soil Interpretations - Rensselaer County, New York

Selected Soil Interpretations– Rensselaer County, New York							
Map symbol and soil name	Pct. of map unit	Urb/rec - camp areas		Urb/rec - paths and trails		Urb/rec - picnic areas	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BrA—Brayton very stony silt loam, nearly level							
Brayton, poorly drained	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Large stones content	0.53	Slow water movement	0.96
		Large stones content	0.53			Large stones content	0.53
Brayton, somewhat poorly drained	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Large stones content	0.53	Slow water movement	0.96
		Large stones content	0.53			Large stones content	0.53
BuC—Buckland very stony loam, sloping							
Buckland, very stony	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Large stones content	0.53	Slow water movement	0.96
		Slow water movement	0.96	Depth to saturated zone	0.44	Depth to saturated zone	0.75
		Slope	0.63			Slope	0.63
		Large stones content	0.53			Large stones content	0.53

Selected Soil Interpretations– Rensselaer County, New York							
Map symbol and soil name	Pct. of map unit	Urb/rec - camp areas		Urb/rec - paths and trails		Urb/rec - picnic areas	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BuD—Buckland very stony loam, moderately steep							
Buckland, very stony	85	Very limited		Very limited		Very limited	
		Too steep	1.00	Slope	1.00	Too steep	1.00
		Depth to saturated zone	0.98	Large stones content	0.53	Slow water movement	0.96
		Slow water movement	0.96	Depth to saturated zone	0.44	Depth to saturated zone	0.75
		Large stones content	0.53			Large stones content	0.53
GIC—Glover very stony loam, very rocky, sloping							
Glover, very stony	75	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Large stones content	0.53	Depth to bedrock	1.00
		Slope	0.63			Slope	0.63
		Large stones content	0.53			Large stones content	0.53
GID—Glover very stony loam, very rocky, moderately steep							
Glover, very stony	75	Very limited		Somewhat limited		Very limited	
		Too steep	1.00	Large stones content	0.53	Too steep	1.00
		Depth to bedrock	1.00	Slope	0.50	Depth to bedrock	1.00
		Large stones content	0.53			Large stones content	0.53
LoA—Loxley and Beseman mucks, 0 to 1 percent slopes							
Loxley	60	Not rated		Not rated		Not rated	
Beseman	25	Not rated		Not rated		Not rated	
W—Water							
Water	100	Not rated		Not rated		Not rated	

Source – NRCS, 2011

Septic Tank Absorption Fields

Septic tank absorption fields are subsurface systems of perforated pipe or similar devices that distribute effluent from a septic tank into the soil. New York State Department of Health regulations allow installation of septic system absorption fields of varying designs, depending upon the depth of suitable soil material above any limitation in the natural soil at a site (New York State Department of Health, 1990). Where necessary, imported fill material may be used to elevate absorption trenches to at least the minimum distance of 24 inches above limiting soil horizons. The depth ranges of suitable material and corresponding types of absorption systems allowed are as follows:

- Less than 12 inches-no system allowed

- 12 to 24 inches-alternative raised trench
- 24 to 48 inches-conventional shallow trench
- More than 48 inches-conventional system

The ratings in this interpretation are based on evaluation of the soil between depths of 12 and 48 inches. In addition, the bottom layer of the soil is evaluated for risk of seepage. This interpretation does not evaluate bedrock below the soil. The soil properties and site features considered are those that affect absorption of the effluent, construction and maintenance of the system, and public health.

The soil properties and qualities that affect the absorption and effective treatment of wastewater effluent are saturated hydraulic conductivity (Ksat), depth to a seasonal high water table, depth to bedrock, depth to dense material, and susceptibility to flooding. Stones and boulders and a shallow depth to bedrock or dense material interfere with installation. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas. In addition, the hazards of erosion and sedimentation increase as slope increases.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 2 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, ground water may be contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. “Not limited” indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. “Somewhat limited” indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. “Very limited” indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00). The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

The information in this interpretation is based on criteria developed specifically for soils in New York. The information is not site specific and does not eliminate the need for onsite investigation of the soils.

Figure 2 Septic Tank Absorption Fields - Summary by Map Unit

Septic Tank Absorption Fields (NY)— Summary by Map Unit — Rensselaer County, New York (NY083)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
BrA	Brayton very stony silt loam, nearly level	Very limited	Brayton, poorly drained (50%)	Depth to saturated zone (1.00)	388.7	17.4%
				Restricted permeability (0.78)		
				Surface rock fragments (0.60)		
			Brayton, somewhat poorly drained (35%)	Depth to saturated zone (1.00)		
				Restricted permeability (0.78)		
				Surface rock fragments (0.60)		
BuC	Buckland very stony loam, sloping	Very limited	Buckland, very stony (75%)	Depth to saturated zone (1.00)	969.1	43.5%
				Restricted permeability (0.71)		
				Surface rock fragments (0.60)		
				Slope (0.20)		
BuD	Buckland very stony loam, moderately steep	Very limited	Buckland, very stony (85%)	Depth to saturated zone (1.00)	192.8	8.6%
				Slope (1.00)		
				Restricted permeability (0.71)		
				Surface rock fragments (0.60)		
GlC	Glover very stony loam, very rocky, sloping	Very limited	Glover, very stony (75%)	Depth to bedrock (1.00)	196.4	8.8%
				Surface rock fragments (0.60)		
				Slope (0.20)		
GlD	Glover very stony loam, very rocky, moderately steep	Very limited	Glover, very stony (75%)	Depth to bedrock (1.00)	68.7	3.1%
				Slope (1.00)		
				Surface rock fragments (0.60)		

Septic Tank Absorption Fields (NY)— Summary by Map Unit — Rensselaer County, New York (NY083)						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
LoA	Loxley and Beseman mucks, 0 to 1 percent slopes	Very limited	Loxley (60%)	Ponding (1.00)	90.2	4.0%
				Depth to saturated zone (1.00)		
			Beseman (25%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Restricted permeability (0.13)		
W	Water	Not rated	Water (100%)		324.7	14.6%
Totals for Area of Interest					**2,230.5**	**100.0%**

Source – NRCS, 2011

D. Appendix D - Flora, Fauna and Endangered Species Lists

Plant Species Found In Grafton Lakes State Park

(Alphabetical by scientific name)

SCIENTIFIC NAME	COMMON NAME
Abies balsamea	balsam fir
Acalypha virginica var. rhomboidea	three-seeded mercury
Acer negundo	box-elder
Acer pensylvanicum	striped maple
Acer platanoides	Norway maple
Acer rubrum var. rubrum	red maple
Acer saccharum	sugar maple
Acer spicatum	mountain maple
Acer x freemanii	soft maple
Achillea millefolium var. millefolium	common yarrow
Achillea ptarmica	sneezeweed
Acorus americanus	sweetflag
Actaea pachypoda	white baneberry
Adiantum pedatum	maidenhair fern
Aegopodium podagraria	goutweed
Agrimonia gryposepala	common agrimony
Agrostis capillaris	colonial bent
Agrostis gigantea	redtop
Agrostis hyemalis	southern hairgrass
Agrostis perennans	autumn bent
Agrostis stolonifera var. palustris	creeping-bent
Ajuga reptans	carpet-bugleweed
Alisma subcordatum	water-plantain
Alliaria petiolata	garlic mustard
Allium schoenoprasum	wild chives
Alnus incana ssp. rugosa	hazel alder
Alnus serrulata	smooth alder
Alopecurus pratensis	meadow foxtail
Ambrosia artemisiifolia	ragweed
Amelanchier arborea	shadbush

SCIENTIFIC NAME	COMMON NAME
Amelanchier laevis	smooth shadbush
Anaphalis margaritacea	pearly everlasting
Anemone virginiana var. alba	thimbleweed
Angelica atropurpurea	purple stem angelica
Antennaria neglecta	Everlasting
Antennaria plantaginifolia	everlasting
Anthoxanthum odoratum	sweet vernalgrass
Apocynum androsaemifolium	spreading dogbane
Aquilegia vulgaris	blue columbine
Arabis glabra	tower-mustard
Aralia nudicaulis	wild sarsaparilla
Arctium minus	common burdock
Arenaria serpyllifolia	thyme-leaf sandwort
Arisaema triphyllum ssp. stewardsonii	Jack-in-the-pulpit
Aronia melanocarpa	black chokeberry
Artemisia vulgaris	felon-herb
Asarum canadense	wild ginger
Asclepias incarnata	Swamp milkweed
Asclepias syriaca	common milkweed
Aster acuminatus	mountain aster
Aster cordifolius	blue aster
Aster divaricatus	white wood aster
Aster ericoides	white wreath aster
Aster laevis var. laevis	smooth blue aster
Aster lanceolatus var. simplex	tall white aster
Aster lateriflorus var. lateriflorus	calico aster

SCIENTIFIC NAME	COMMON NAME
Aster macrophyllus var. macrophyllus	bigleaf aster
Aster novae-angliae	New England aster
Aster pilosus var. pringlei	heath aster
Aster puniceus var. puniceus	purple-stemmed aster
Athyrium filix-femina var. angustum	northern lady fern
Barbarea vulgaris	cress
Berberis thunbergii	Japanese barberry
Berteroa incana	hoary alyssum
Betula alleghaniensis	yellow birch
Betula lenta	sweet birch
Betula papyrifera	paper birch
Betula populifolia	gray birch
Bidens cernua	stick-tights
Bidens connata	beggar-ticks
Bidens frondosa	beggar-ticks
Bidens tripartita	beggar-ticks
Botrychium virginianum	rattlesnake fern
Brachyelytrum erectum	bearded-shorthusk
Brasenia schreberi	Watershield
Bromus inermis	smooth brome
Bromus latiglumis	Canada brome
Calamagrostis canadensis var. Canadensis	bluejoint grass
Calla palustris	water arum
Callitriche palustris	water-starwort
Caltha palustris	marsh marigold
Calystegia sepium ssp. sepium	hedge-bindweed
Campanula aparinoides	marsh bellflower
Campanula persicifolia c.v. "alba"	willow bellflower
Campanula rapunculoides	creeping bellflower
Capsella bursa-pastoris	shepherd's-purse
Cardamine diphylla	two-leaf toothwort
Cardamine pensylvanica	Pennsylvania bittercress
Carex aestivalis	Sedge
Carex annectens var. annectens	Sedge
Carex appalachica	Sedge
Carex arctata	Sedge
Carex atlantica ssp. atlantica	Sedge
Carex bebbii	Sedge
Carex bromoides	Sedge

SCIENTIFIC NAME	COMMON NAME
Carex brunnescens var. brunnescens	Sedge
Carex canescens	Sedge
Carex communis	Sedge
Carex comosa	Sedge
Carex conoidea	Sedge
Carex crinita	Sedge
Carex cristatella	Sedge
Carex debilis var. rudgei	Sedge
Carex deweyana	Sedge
Carex digitalis	Sedge
Carex disperma	Sedge
Carex echinata	sedge
Carex folliculata	sedge
Carex gracillima	sedge
Carex gynandra	sedge
Carex hirsutella	sedge
Carex intumescens	sedge
Carex laxiculmis	sedge
Carex laxiflora var. laxiflora	sedge
Carex leptalea	sedge
Carex lupulina	sedge
Carex lurida	sedge
Carex normalis	sedge
Carex novae-angliae	sedge
Carex pallescens	sedge
Carex pedunculata	sedge
Carex pensylvanica	sedge
Carex plantaginea	plantain-sedge
Carex prasina	sedge
Carex projecta	sedge
Carex radiata	sedge
Carex rosea	sedge
Carex rostrata var. utriculata	sedge
Carex scabrata	sedge
Carex scoparia var. scoparia	sedge
Carex stipata	sedge
Carex stricta	tussock-sedge
Carex swanii	sedge
Carex tenera	sedge
Carex tribuloides	sedge
Carex trisperma var. trisperma	sedge
Carex vesicaria var. vesicaria	sedge
Carex virescens	sedge

SCIENTIFIC NAME	COMMON NAME
Carex vulpinoidea	sedge
Carpinus caroliniana ssp. virginiana	hornbeam
Carum carvi	caraway
Carya ovata	shagbark hickory
Catalpa speciosa	catalpa
Caulophyllum thalictroides	blue cohosh
Celastrus orbiculata	Oriental bittersweet
Centaurea maculosa	bushy knapweed
Cephalanthus occidentalis	buttonbush
Cerastium fontanum	common mouse-ear
Chamaedaphne calyculata	Leatherleaf
Chamaesyce maculata	Eyebane
Chamaesyce vermiculata	hairy spurge
Chelidonium majus	greater celandine
Chelone glabra	turtle-heads
Chenopodium album var. album	lamb's-quarters
Chenopodium simplex	maple-leaf goosefoot
Chimaphila umbellata ssp. Cisatlantica	pipsissewa
Chrysosplenium americanum	golden saxifrage
Cichorium intybus	chicory
Cicuta bulbifera	water-hemlock
Cicuta maculata	water-hemlock
Cinna latifolia	drooping woodreed
Circaea alpina	dwarf enchanter's nightshade
Circaea lutetiana ssp. canadensis	enchanter's nightshade
Cirsium arvense	Canada thistle
Cirsium vulgare	bull-thistle
Claytonia caroliniana	carolina spring-beauty
Clematis virginiana	virgin's-bower
Clinopodium vulgare	basil
Clintonia borealis	woodlily
Convallaria majalis	lily-of-the-valley
Conyza canadensis var. Canadensis	horseweed
Coptis trifolia	goldthreads
Corallorhiza trifida	pale coral-root
Cornus alternifolia	green osier
Cornus canadensis	bunchberry
Cornus foemina ssp. racemosa	gray dogwood

SCIENTIFIC NAME	COMMON NAME
Coronilla varia	crown-vetch
Corylus cornuta	beaked hazel
Crataegus [undetermined]	hawthorn
Cyperus bipartitus	cyperus
Cyperus strigosus	galingale
Cypripedium acaule	pink ladyslipper
Dactylis glomerata	orchard grass
Danthonia compressa	northern oatgrass
Danthonia spicata	poverty-grass
Daucus carota	Queen-Anne's-lace
Dennstaedtia punctilobula	hay-scented fern
Deparia acrostichoides	silvery spleenwort
Dianthus armeria	Deptford pink
Dianthus barbatus	sweet-william
Dicentra cucullaria	Dutchman's-breeches
Diervilla lonicera	bush honeysuckle
Digitalis purpurea	purple foxglove
Digitaria ischaemum	smooth crabgrass
Digitaria sanguinalis	tall crabgrass
Dryopteris carthusiana	spinulose wood fern
Dryopteris cristata	crested wood fern
Dryopteris intermedia	fancy fern
Dryopteris marginalis	marginal wood fern
Dryopteris x boottii	Boott's wood fern
Dryopteris x pittsfordensis	wood fern
Dryopteris x triploidea	wood fern
Dryopteris x uliginosa	spinulose crested wood fern
Dulichium arundinaceum	three-way sedge
Echinochloa muricata var. microstachya	cockspur grass
Echium vulgare	blue-devil
Elatine minima	lesser waterwort
Eleocharis acicularis	hairgrass
Eleocharis elliptica var. elliptica	slender spikerush
Eleocharis obtusa var. obtusa	spikerush
Eleocharis palustris	creeping spikerush
Elodea canadensis	waterweed
Elodea nuttallii	waterweed
Elymus riparius	marsh wild-rye
Elytrigia repens	quackgrass
Epifagus virginiana	beech-drops
Epilobium ciliatum ssp. ciliatum	willow-herb
Epilobium coloratum	purple-leaf willow-herb

SCIENTIFIC NAME	COMMON NAME
Epilobium leptophyllum	willow-herb
Epipactis helleborine	helleborine
Equisetum arvense	common horsetail
Equisetum fluviatile	water horsetail
Equisetum sylvaticum	woodland horsetail
Eragrostis pectinacea	lovegrass
Erechtites hieracifolia var. hieracifolia	fireweed
Erigeron annuus	daisy-fleabane
Erigeron philadelphicus	fleabane
Erigeron strigosus	daisy-fleabane
Eriocaulon aquaticum	white-buttons
Erysimum cheiranthoides	wormseed-mustard
Erythronium americanum	yellow adder's-tongue
Eupatorium maculatum var. maculatum	spotted joe-pye-weed
Eupatorium perfoliatum	thoroughwort
Eupatorium rugosum	white snakeroot
Euthamia graminifolia	bush goldenrod
Fagus grandifolia	American beech
Festuca filiformis	hair fescue
Festuca rubra ssp. rubra	red fescue
Festuca subverticillata	nodding fescue
Fragaria virginiana	wild strawberry
Fraxinus americana	white ash
Fraxinus nigra	black ash
Galeopsis tetrahit	hemp-nettle
Galinsoga quadriradiata	quickweed
Galium asprellum	rough bedstraw
Galium lanceolatum	wild-licorice
Galium mollugo	white bedstraw
Galium palustre	ditch bedstraw
Galium tinctorium	bedstraw
Galium trifidum ssp. trifidum	small bedstraw
Galium triflorum	sweet-scented bedstraw
Gaultheria procumbens	wintergreen
Gaylussacia baccata	black huckleberry
Geranium robertianum	herb-robert
Geum canadense	white avens
Geum laciniatum	rough avens
Geum rivale	purple avens
Glechoma hederacea	ground-ivy
Glyceria borealis	northern mannagrass
Glyceria canadensis	rattlesnake grass
Glyceria grandis	reed meadowgrass
Glyceria melicaria	slender mannagrass
Glyceria striata	fowl mannagrass
Gnaphalium uliginosum	low cudweed
Goodyera tesselata	rattlesnake plantain
Gratiola neglecta	mud-hyssop
Gymnocarpium dryopteris	oak fern
Hamamelis virginiana	witch-hazel
Hedeoma pulegioides	mock-pennyroyal
Hemerocallis fulva	orange day-lily
Hesperis matronalis	dame's-rocket
Hieracium aurantiacum	orange hawkweed
Hieracium caespitosum	king-devil
Hieracium paniculatum	hawkweed
Hieracium pilosella	mouse-ear hawkweed
Hieracium piloselloides	king-devil
Hieracium scabrum	hawkweed
Holcus lanatus	velvet grass
Humulus lupulus	common hop
Huperzia lucidula	shining firmoss
Hydrangea paniculata c.v. "grandiflora"	pee gee hydrangea
Hydrocotyle americana	pennywort
Hydrophyllum virginianum	Virginia waterleaf
Hypericum ellipticum	pale St. John's-wort
Hypericum majus	Canadian St. John's-wort
Hypericum mutilum	dwarf St. John's-wort
Hypericum perforatum	common St. John's-wort
Hypericum punctatum	St. John's-wort
Hypochaeris radicata	cat's-ear
Ilex verticillata	black alder
Impatiens capensis	spotted jewelweed
Inula helenium	elecampane
Iris versicolor	blue flag
Isoetes echinospora	stiff quillwort
Isoetes engelmannii	Engelmann quillwort
Isoetes tuckermanii	Tuckerman's quillwort
Juncus acuminatus	sharp-fruited rush
Juncus articulatus	jointed rush
Juncus brevicaudatus	narrow-panicled rush
Juncus bufonius	toad-rush
Juncus effusus var. solutus	common rush

SCIENTIFIC NAME	COMMON NAME
Juncus tenuis	slender yard-rush
Juniperus communis var. depressa	spreading juniper
Kalmia angustifolia	sheep laurel
Lactuca biennis	wild lettuce
Lactuca canadensis var. canadensis	wild lettuce
Laportea canadensis	wood-nettle
Larix kaempferi	Japanese Larch
Larix laricina	tamarack
Leersia oryzoides	rice cutgrass
Leersia virginica	whitegrass
Lemna minor	duckweed
Leontodon autumnalis	fall-dandelion
Leonurus cardiaca	motherwort
Lepidium campestre	cow-cress
Lepidium virginicum	wild peppergrass
Leucanthemum vulgare	ox-eye daisy
Linaria vulgaris	butter-and-eggs
Lindera benzoin	spicebush
Lindernia dubia var. dubia	false-pimpernel
Lobelia cardinalis	cardinal-flower
Lobelia dortmanna	water lobelia
Lobelia inflata	Indian-tobacco
Lolium arundinaceum	tall fescue
Lolium perenne var. perenne	English ryegrass
Lolium pratense ssp. pratense	meadow fescue
Lonicera canadensis	fly honeysuckle
Lonicera morrowii	fly honeysuckle
Lonicera tatarica	Tartarian honeysuckle
Lonicera x bella	fly honeysuckle
Lotus corniculata	bird's-foot trefoil
Ludwigia palustris	water purslane
Luzula campestris var. multiflora	common wood-rush
Lycopodium annotinum var. annotinum	bristly clubmoss
Lycopodium clavatum	running-cedar
Lycopodium dendroideum	northern tree clubmoss
Lycopodium digitatum	running pine
Lycopodium hickeyi	Hickey's clubmoss
Lycopodium obscurum	ground-pine
Lycopodium x habereri	Haberer's ground-pine
Lycopus americanus	water-horehound

SCIENTIFIC NAME	COMMON NAME
Lycopus uniflorus	water-horehound
Lyonia ligustrina	maleberry
Lysimachia ciliata	fringed loosestrife
Lysimachia nummularia	moneywort
Lysimachia quadrifolia	whorled loosestrife
Lysimachia terrestris	swamp-candles
Lysimachia thyrsiflora	tufted loosestrife
Lythrum salicaria	purple loosestrife
Maianthemum canadense	false lily-of-the-valley
Maianthemum racemosum	false Solomon's-seal
Malaxis unifolia	green adder's-mouth
Malus pumila	common apple
Malva moschata	musk-mallow
Matricaria discoidea	pinapple-weed
Matteuccia struthiopteris	ostrich fern
Medeola virginiana	Indian cucumber-root
Medicago lupulina	black medick
Melampyrum lineare	cow-wheat
Melilotus alba	white sweet-clover
Melilotus officinalis	yellow sweet-clover
Mentha arvensis	field mint
Mentha x piperita	peppermint
Mimulus ringens	common monkeyflower
Mitchella repens	partridge-berry
Monotropa hypopithys	pinesap
Monotropa uniflora	Indian-pipe
Muhlenbergia frondosa	wirestem muhly
Muhlenbergia mexicana	satin-grass
Myosotis laxa	wild forget-me-not
Myosotis scorpioides	forget-me-not
Myosoton aquaticum	giant chickweed
Myriophyllum [not determined]	milfoil
Myriophyllum spicatum	eurasian milfoil
Najas flexilis	naiad
Najas gracillima	naiad
Narcissus poeticus var. recurvus	poet's narcissus
Nemopanthus mucronatus	mountain holly
Nuphar variegata	common yellow cowlily
Nymphaea odorata	Fragrant water-lily
Nymphoides cordata	floating-heart
Oenothera biennis	common evening-primrose

SCIENTIFIC NAME	COMMON NAME
Oenothera perennis	sundrops
Onoclea sensibilis	sensitive fern
Osmunda cinnamomea	cinnamon fern
Osmunda claytoniana	interrupted fern
Osmunda regalis var. spectabilis	royal fern
Ostrya virginiana	hop hornbeam
Oxalis dillenii ssp. filipes	woord sorrel
Oxalis montana	common wood-sorrel
Oxalis stricta	lady's-sorrel
Panax trifolius	dwarf ginseng
Panicum acuminatum	panic grass
Panicum boreale	northern panic grass
Panicum capillare	witchgrass
Panicum commutatum	panic grass
Panicum dichotomiflorum var. dichotomiflorum	smooth panic grass
Paraleucobryum longifolium	longleaf paraleucobryum moss
Parthenocissus vitacea	Virginia creeper
Peltandra virginica	arrowleaf
Penstemon digitalis	false-foxglove
Phalaris arundinacea	reed canary-grass
Phegopteris connectilis	northern beech fern
Philadelphus inodorus	mock-orange
Phleum pratense ssp. pratense	timothy
Phlox subulata	moss phlox
Phragmites australis	common reed
Picea abies	Norway spruce
Picea glauca	white spruce
Picea rubens	red spruce
Pilea pumila	richweed
Pinus nigra	Austrian pine
Pinus resinosa	red pine
Pinus rigida	pitch pine
Pinus strobus	white pine
Plantago lanceolata	buck-horn plantain
Plantago major	common plantain
Plantago rugelii	pale plantain
Platanthera clavellata	green woodland orchid
Platanthera lacera	ragged fringed orchid
Platanthera orbiculata	round-leaved orchid
Platanthera psycodes	purple fringed orchid

SCIENTIFIC NAME	COMMON NAME
Poa alsodes	speargrass
Poa annua	annual bluegrass
Poa compressa	Canada bluegrass
Poa nemoralis	bluegrass
Poa palustris	fowl bluegrass
Poa pratensis	Kentucky bluegrass
Poa saltuensis	old-pasture bluegrass
Poa trivialis	rough bluegrass
Podophyllum peltatum	May-apple
Polygonatum pubescens	Solomon's-seal
Polygonum arifolium	arrowleaf tearthumb
Polygonum aviculare	knotweed
Polygonum buxiforme	knotweed
Polygonum cespitosum var. longisetum	low smartweed
Polygonum cilinode	fringed bindweed
Polygonum convolvulus	black bindweed
Polygonum cuspidatum	Japanese bamboo
Polygonum hydropiper	common smartweed
Polygonum hydropiperoides var. hydropiperoides	mild water-pepper
Polygonum pensylvanicum	pinkweed
Polygonum persicaria	lady's-thumb
Polygonum punctatum var. confertiflorum	water smartweed
Polygonum ramosissimum var. ramosissimum	knotweed
Polygonum sagittatum	tearthumb
Polypodium appalachianum	Appalachian polypody
Polypodium appalachianum x virg	rock polypody
Polypodium virginianum	rock polypody
Polystichum acrostichoides	Christmas fern
Pontederia cordata	pickerelweed
Populus deltoides	cottonwood
Populus grandidentata	big-toothed aspen
Populus tremuloides	quaking aspen
Populus x jackii	balm-of-Gilead
Potamogeton amplifolius	pondweed
Potamogeton bicupulatus	pondweed
Potamogeton epihydrus	pondweed
Potamogeton pusillus var. tenuissimus	pondweed
Potamogeton spirillus	pondweed
Potentilla argentea	silvery cinquefoil

SCIENTIFIC NAME	COMMON NAME
Potentilla norvegica ssp. norvegica	rough cinquefoil
Potentilla recta	sulfer cinquefoil
Potentilla simplex	common cinquefoil
Prenanthes altissima	rattlesnake-root
Prenanthes trifoliolata	gall-of-the-earth
Proserpinaca palustris var. palustris	mermaid-weed
Prunella vulgaris	self-heal
Prunus pensylvanica	pin-cherry
Prunus serotina	black cherry
Prunus virginiana	choke-cherry
Pseudotsuga menziesii	Douglas fir
Pteridium aquilinum var. latiusculum	bracken
Puccinellia distans ssp. distans	alkali-grass
Pyrola americana	wild lily-of-the-valley
Pyrola elliptica	shinleaf
Quercus alba	white oak
Quercus coccinea	scarlet oak
Quercus palustris	pin oak
Quercus rubra	red oak
Ranunculus abortivus var. abortivus	kidney-leaf crowfoot
Ranunculus acris	common buttercup
Ranunculus hispidus var. caricetorum	swamp buttercup
Ranunculus recurvatus	hooked buttercup
Ranunculus repens	creeping buttercup
Raphanus raphanistrum	wild radish
Rhamnus cathartica	common buckthorn
Rhinanthus minor	yellow-rattle
Rhododendron prinophyllum	early azalea
Rhus hirta	staghorn sumac
Ribes cynosbati	dogberry
Ribes glandulosum	skunk currant
Ribes lacustre	bristly black currant
Ribes rubrum	northern red currant
Robinia pseudo-acacia	black locust
Robinia viscosa	clammy locust
Rorippa nasturtium-aquaticum	watercress
Rorippa palustris ssp. fernaldiana	marsh watercress
Rorippa sylvestris	creeping yellow-cress

SCIENTIFIC NAME	COMMON NAME
Rosa centifolia c.v. "Common Moss"	Moss rose
Rosa multiflora	multiflora rose
Rosa palustris	swamp rose
Rubus allegheniensis	northern blackberry
Rubus arundelanus	sand blackberry
Rubus canadensis	thornless blackberry
Rubus flagellaris	American dewberry
Rubus hispidus	swamp dewberry
Rubus idaeus ssp. strigosus	wild raspberry
Rubus occidentalis	black raspberry
Rubus pubescens	dwarf raspberry
Rubus setosus	bog blackberry
Rudbeckia hirta var. pulcherrima	black-eyed-Susan
Rumex acetosella	sheep sorrel
Rumex crispus	curly dock
Rumex obtusifolius	bitter-dock
Sagina procumbens	pearlwort
Sagittaria latifolia	wapato
Salix alba	white willow
Salix atrocinerea	ashy willow
Salix bebbiana	beaked willow
Salix discolor	pussy-willow
Salix eriocephala	stiff willow
Salix nigra	black willow
Salix pentandra	bay-leaf willow
Salix petiolaris	slender willow
Salix sericea	silky willow
Sambucus racemosa ssp. pubens	red elderberry
Sarracenia purpurea	pitcher-plant
Saxifraga pensylvanica	swamp saxifrage
Schizachne purpurascens	false melic
Schizachyrium scoparium ssp. scoparium	little blue-stem
Scirpus atrocinctus	northern bulrush
Scirpus atrovirens	bulrush
Scirpus cyperinus	woolgrass
Scirpus hattorianus	bulrush
Scirpus microcarpus	bulrush
Scirpus pedicellatus	bulrush
Scirpus tabernaemontani	soft-stem bulrush
Scutellaria galericulata	common skullcap
Scutellaria lateriflora	mad-dog skullcap
Sedum telephium	live-forever
Senecio aureus	golden ragwort
Setaria pumila	yellow foxtail

SCIENTIFIC NAME	COMMON NAME
Setaria viridis	green foxtail
Silene latifolia	white campion
Sisyrinchium angustifolium	blue-eyed grass
Sisyrinchium atlanticum	blue-eyed grass
Sisyrinchium montanum var. crebrum	blue-eyed grass
Sium suave	water-parsnip
Solanum dulcamara	trailing nightshade
Solidago bicolor	white goldenrod
Solidago canadensis var. canadensis	Canada goldenrod
Solidago gigantea	late goldenrod
Solidago juncea	early goldenrod
Solidago nemoralis	rough goldenrod
Solidago puberula	downy goldenrod
Solidago rugosa ssp. rugosa var. rugosa	tall hairy goldenrod
Sonchus asper	spiny sow-thistle
Sorbus americana	American mountain ash
Sparganium americanum	bur-reed
Sparganium angustifolium	bur-reed
Sparganium erectum	bur-reed
Sparganium eurycarpum	bur-reed
Spiraea alba var. latifolia	meadow-sweet
Spiraea tomentosa var. tomentosa	hardhack
Spiraea x vanhouttei	spiraea
Spiranthes cernua	nodding lady's-tresses
Spirodela polyrhiza	giant duckweed
Sporobolus vaginiflorus	poverty-grass
Stellaria graminea	common stitchwort
Stellaria media	common chickweed
Symphoricarpos albus var. laevigatus	snowberry
Syringa vulgaris	lilac
Tanacetum vulgare	tansy
Taraxacum officinale	common dandelion
Taxus canadensis	American yew
Thalictrum pubescens	tall meadow-rue
Thelypteris noveboracensis	New York fern
Thelypteris palustris var. pubescens	marsh fern
Thymus pulegioides	wild thyme
Tiarella cordifolia	foamflower

SCIENTIFIC NAME	COMMON NAME
Tilia americana var. americana	basswood
Torreyochloa pallida var. fernaldii	pale mannagrass
Toxicodendron rydbergii	giant poison ivy
Tragopogon pratensis	yellow goat's-beard
Triadenum virginicum	marsh St. John's wort
Trientalis borealis	starflower
Trifolium arvense	rabbit's-foot clover
Trifolium aureum	yellow clover
Trifolium campestre	hop-clover
Trifolium hybridum	alsike clover
Trifolium pratense	red clover
Trifolium repens	white clover
Trillium erectum var. erectum	purple trillium
Trillium undulatum	painted trillium
Tsuga canadensis	hemlock
Tussilago farfara	coltsfoot
Typha angustifolia	narrow-leaf cat-tail
Typha latifolia	common cat-tail
Typha x glauca	cat-tail
Ulmus americana	American elm
Utricularia gibba	cone-spur bladderwort
Utricularia macrorhiza	common bladderwort
Uvularia sessilifolia	wild-oats
Vaccinium angustifolium	lowbush blueberry
Vaccinium angustifolium x cory	Blueberry
Vaccinium corymbosum	highbush blueberry
Vaccinium myrtilloides	sour-top blueberry
Vallisneria americana	tapegrass
Veratrum viride	false or white hellebore
Verbascum thapsus	mullein
Verbena hastata	blue vervain
Veronica americana	American speedwell
Veronica arvensis	corn speedwell
Veronica longifolia	speedwell
Veronica officinalis	speedwell
Veronica peregrina ssp. peregrina	neckweed
Veronica scutellata	marsh speedwell
Veronica serpyllifolia ssp. serpyllifolia	thyme-leaf speedwell

SCIENTIFIC NAME	COMMON NAME
Viburnum acerifolium	maple-leaf viburnum
Viburnum dentatum var. lucidum	southern arrowwood
Viburnum lantanoides	hobblebush
Viburnum lentago	sheepberry
Viburnum nudum var. cassinoides	withe-rod
Vicia cracca ssp. cracca	cow-vetch
Vinca minor	common periwinkle
Viola blanda	sweet white violet
Viola canadensis	tall white violet
Viola conspersa	American dog-violet
Viola cucullata	blue marsh violet
Viola macloskeyi ssp. pallens	pale violet
Viola pubescens	yellow violet
Viola renifolia	northern white violet
Viola rotundifolia	round-leaf violet
Zizia aurea	Golden alexander

Sources:
Natural Heritage Program (2003)
Rensselaer Land Trust (1998)
David Hunt, PhD. Personal Observations

Animal Species Found in Grafton Lakes State Park

Explanation of letters in parenthesis. (e) – Endangered, (t) – Threatened (s) – Species of special concern. All three as defined in 6NYCRR Part 182.

Amphibian & Reptile Species:

Eastern American Toad

Bullfrog
Gray Treefrog
Green Frog
Northern Leopard Frog
Pickerel Frog
Northern Spring Peeper
Wood Frog

Northern Dusky Salamander
Northern Red-Backed Salamander
Red-Spotted Newt
Spotted Salamander
Two-lined Salamander

Common Snapping Turtle
Eastern Box Turtle (s)
Painted Turtle
Wood Turtle (s)

Common Garter Snake
Northern Brown Snake
Northern Red-Bellied Snake
Northern Ring-Necked Snake
Smooth Green Snake
Eastern Milk Snake

Source: New York State Reptile and Amphibian Atlas Project (1990-1999)

Fish Species:

Alewife
Black Crappie
Bluegill
Bluntnose Minnows
Brown Bullhead
Brown Trout
Chain Pickerel
Creek Chub
Fallfish
Golden Shiner
Largemouth Bass
Pumpkinseed
Rainbow Trout
Redbreast Sunfish
Rock Bass
Smallmouth Bass
Tessellated Darter
Walleye
White Sucker
Yellow Perch

Source: DEC Fisheries Surveys (1990-2007)

Mammals:

American Mink
Beaver
Black Bear
Coyote
White footed Mouse
Eastern Chipmunk
Eastern Cottontail
Fisher
Grey Fox
Gray Squirrel
Red Squirrel
Meadow Vole
Moose
Muskrat
North American Porcupine
Northern Raccoon
Red Fox
River Otter
White-tailed Deer
Striped Skunk
Woodchuck

Source: Staff of Grafton Lakes State Park Observations (Animals or Sign)

Bird Species:

Acadian flycatcher
Alder flycatcher
American bittern (s)
American black duck
American coot
American crow
American goldfinch
American kestrel
American pipit
American redstart
American robin
American tree sparrow
American wigeon
American woodcock
Bald eagle (t)
Baltimore oriole
Bank swallow
Barn swallow
Barred owl
Bay-breasterd warbler
Belted kingfisher
Bicknell's thrush
Black and white warbler
Black-bellied plover
Black-billed cuckoo
Blackburnian warbler
Black-capped chickadee
Blackpoll warbler
Black-throated blue warbler
Black-throated green warbler
Blue jay
Blue-gray gnatcatcher
Blue headed vireo
Blue-winged teal
Blue-winged warbler
Baltimore oriole
Boblink
Bohemian waxwing
Bonaparte's gull
Boreal chickadee
Broad-winged hawk
Brown creeper
Brown thrasher
Brown-headed cowbird
Bufflehead
Canada goose
Canada warbler

Cap may warbler
Carolina wren
Cedar waxwing
Chestunt-sided warbler
Chimney swift
Chipping sparrow
Cliff swallow
Common goldeneye
Common grackle
Common loon
Common merganser
Common nighthawk (s)
Common raven
Common redpoll
Common snipe
Common yellowthroat
Connecticut warbler
Cooper's hawk (s)
Dak-eyed junco
Double-crested cormorant
Downy woodpecker
Easstern bluebird
Eastern kiingbird
Eastern meadowlark
Eastern phoebe
Eastern screech owl
Eastern towhee
Eastern wood-pewee
European starling
Evening grosbeak
Field sparrow
Fox sparrow
Gadwall
Golden eagle (e)
Golden-crowned kinglet
Gray catbird
Gray-cheeked thrush
Great black-backed gull
Great blue heron
Great crested flycatcher
Great egret
Great horned owl
Greater scaup
Greater yellowlegs
Green heron
Green-winged teal
Hairy woodpecker
Hermit thrush
Herring gull
Hooded merganser
Horned grebe
Horned lark (s)
House finch
House sparrow
House wren
Indigo bunting
Killdeer
Least flycatcher
Least sandpiper
Lesser scaup
Lesser yellowlegs
Lincoln's sparrow
Louisiana waterthrush
Magnolia warbler
Mallard
Merlin
Mourning dove
Mourning warbler
Mute swan
Nashville warbler
Nnorthern flicker
Norhtern parula
Norhtern saw-whet owl
Northern cardinal
Northern goshawk (s)
Northern harrier (t)
Northern mockingbird
Northern pintail
Northern rough-winged swallow
Northern shrike
Northern waterthrush
Olive-sided flycatcher
Osprey (s)
Ovenbird
Palm warbler
Pectoral sandpiper
Peregrine falcon (e)
Philidelphia vireo
Pied-billed grebe (t)
Pileated woodpecker
Pine grosbeak
Pine siskin
Pine warbler
Prairie warbler
Purple finch
Red crossbill

Red-bellied woodpecker
Red-breasted nuthatch
Red-eyed vireo
Red-shouldered hawk (s)
Red-tailed hawk
Red-winged blackbird
Ring-billed gull
Ring-necked duck
Rock dove
Rose-breasted grosbeak
Ruby-crowned kinglet
Ruby-throated hummingbird
Ruffed grouse
Rusty blackbird
Savannah sparrow
Scarlet tanager
Semipalmated sandpiper
Sharp-shinned hawk (s)
Snow bunting
Snow goose
Solitary sandpiper
Solitary vireo
Song sparrow
Spotted sandpiper
Swainson's thrush
Swamp sparrow
Tennessee warbler
Tree swallow
Tufted titmouse
Turkey vulture
Veery
Virginia rail
Warbling vireo
Whip-poor-will (s)
White-breasted nuthatch
White-crowned sparrow
White-throated sparrow
Wild turkey
Willow flycatcher
Wilson's warbler
Winter wren
Wite-winged crossbill
Wood duck
Wood thrush
Yellow warbler
Yellow-bellied flycatcher
Yellow-bellied sapsucker
Yellow-billed cuckoo
Yellow-rumped warbler

Sources: Breeding Bird Atlas (2005)

Grafton Lakes State Park Checklist of Birds (1997)

Staff of Grafton Lakes State Park Observations

E. Appendix E – Grafton Lakes State Park Infrastructure

Table 1 Grafton Lakes State Park Building Information

Building	Year Built	Bldg. Sq. Ft.
Barn	Unk.	1269
South Comfort Station	1969	717
Contact Station	1969	668
Concession Building	1969	1710
Garage-Long Pond Rd	Unk.	480
Mens Locker Room	1969	754
Dunham Dam Gate House	1911	100
Lifeguard Office	1969	884
Agan Rd House (Nature Center)	Unk.	740
Rabbit Run Picnic Shelter	1974	1472
Pump House		63
Sewage Treatment Plant	1969	168
Steel Storage Building	Unk.	2730
Park Managers Residence	Unk.	1994
Womens Locker Room	1969	1080
Deerfield Comfort Station	1974	693
Park Office	Unk.	2296
Long Pond Rd House (Stone House)	Unk.	2400
North Comfort Station	1969	717
Womens Restroom (Beach)	1969	940
Mens Restroom (Beach)	1969	940
Maintenance Building	1974	3577
Water Treatment Plant		140
Boat Rental Building		133
Garage-Long Pond Rd	Unk.	400
Amphitheater		320
Picnic Pavilion (Deerfield)	1974	1472
Composting Toilet Bldg	2002	100

Beach Nature Center: Located between the main parking area and swimming beach. Open from Memorial Day through Labor Day providing hands on activities and nature teachings by the Park Naturalist. This building does not have a public bathroom but there is a staff bathroom. The center is handicapped accessible.

Beach First Aid Station: Attached to the Beach Nature Center this building is where the lifeguard first aiders keep all daily logs and assist patrons when dealing with injuries. This building is open

when the beach is open from 10am to 6pm Friday through Tuesday from Memorial Day until Labor Day.

Stone House: Grafton Trail Blazers have a lease agreement with the state park under which they have rehabilitated this former residence into a clubhouse for their snowmobile group. It is available during the winter months as a warming hut to the general public or fellow clubs by contacting the Grafton Trailblazers.

Shaver Nature Center: Meeting space located on Shaver Pond Road that includes a kitchen area, bathroom facility for meetings up to 30 people in size. The building and grounds are handicapped accessible. Spacious lawn and front and back decks allow for smaller groups to have a casual setting. This building has two parking lots and direct access to the popular Shaver Pond Nature Trail. Reservations are required and can be obtained by calling the park office.

Concession: A private concessionaire provides a variety of foods during the on season from Memorial Day through Labor Day. There are no set hours, but usually open daily from 10am to 6pm. The concession building is handicapped accessible and has outdoor, umbrella covered tables, bathrooms are located close by in the bath houses.

Main Area Bath Houses: Showers and changing rooms with lockers are available for park patrons in the bathroom facilities located at the main beach. This facility is open from Memorial Day through Labor Day seven days a week and is handicapped accessible.

Park Office: Located off of the main park road where staff is available with trail maps and park information to answer any questions park patrons may have. All permits including hunting, shelter and tent, fishing, alcohol, and recreation bags are available at the office. During the winter months snowshoe rentals are available as well. A bathroom facility is located in this building that is open to the public year round and handicapped accessible. Regular Park Office Hours are 8am – 4:30pm seven days a week.

Composting toilets: A composting toilet is available throughout the year in the parking area at the end of Long Pond Rd. A composting toilet in the main parking lot is available only during winter months. The electricity demand on these facilities is met by solar panels.

Maintenance Shop: This building is used year round by the park maintenance crew. A wood burning boiler heats the shop and there is electricity in the building. There are four bays one includes the carpentry shop and the other side contains the mechanic's lifts and equipment. The building also contains a staff bathroom and small break room. The maintenance shop is only accessible to the general public during the annual Winter Festival in January.

Old Maintenance Shop: Large open space where the electric vehicles, cleaning equipment and large program displays are stored. It is only accessible to park staff. The building is not heated, there is electric for lighting.

Park Police Building: This is the newest facility on the property where zone B park police are stationed. The park police patrol all of the Rensselaer County state parks. This building has holding areas, male and female changing rooms and bathrooms, as well as office space for sergeants and officers. This building also contains one bathroom for the general public. Park patrons can go to the station and access exterior areas and discuss concerns through the window but are not allowed in the main station. There are no set hours or operation dates for the station.

Pole Barn: This building is only open to the general public once a year during the annual Winter Festival event. The rest of the time this building is used for storing equipment and as a maintenance work space. There is electric but no heat in this building.

Lumber Barn: This building is used for storing park lumber for projects and equipment that is being used for the current season. There is no heat in this building and is not open to the public.

Utilities

Telephone and Internet

- **Verizon, Albany, NY**

Electricity

- **National Grid, Buffalo, NY**

Petroleum Products and Storage

- **Unleaded Gasoline, Kerosene and Fuel Oil - Main-Care Energy, Albany, NY**
- **Diesel Fuel - Warex Terminals Corporation, Newburgh, NY**

Table 2 Petroleum Bulk Storage Inventory at Grafton Lakes State Park.

Tank #	Size(gal)	Product Stored
1	2500	Unleaded gasoline
2	250	Diesel
3	275	#2 Fuel Oil
4	300	Kerosene
5	1000	#2 Fuel Oil
6	275	#2 Fuel Oil
7	250	#2 Fuel Oil

Renewable Energy Systems

- 3 kW grid-tied photovoltaic system mounted on roof of Park Police Substation
- Exterior wood boiler at Maintenance Shop
- Wood stove at Park Police Substation
- Wood stove at Park Manager's Residence

Roads and Bridges

- Entrance Road: Asphalt, 1.56 miles
- Long Pond Road is maintained by the Town of Grafton

- There are no road bridges within the Park.

Parking Areas

- **Beach:** Asphalt surface in good condition. 555 standard spaces, 20 ADA spaces.
- **Rabbit Run**: Asphalt surface in fair condition. 90 standard spaces.
- **Deerfield**: Asphalt surface in fair condition. 90 standard spaces, 5 ADA spaces.
- **Mill Pond:** Gravel parking area, no formal delineation of spaces.
- **Second Pond Boat Launch:** Gravel parking area, no formal delineation of spaces.
- **Long Pond Boat Launch:** Gravel parking area, no formal delineation of spaces.
- **Shaver Pond Nature Center:** Gravel parking area, no formal delineation of spaces.
- **White Lily Pond:** Gravel parking area, no formal delineation of spaces.
- **Maintenance Area / Park Office:** Gravel parking areas, no formal delineation of spaces.
- **Minor trailheads:** Dunham Reservoir South, Dunham Reservoir North, Gartler Trailhead, Shaver Pond Fishing Access.

Dams and Culverts

Table 3 Long Pond Dam

Dam ID						
	Dam Name:	Long Pond Dam		State ID:	243-1447	
	Facility:	Grafton Lakes		Federal ID:	NY00908	
	County:	Rensselaer		Hazard Class:	C-High	
Dam Characteristics						
	River or Stream:	Tr-Quacken Kill		Dam Length:	250'	
	Dam Type:	Earth		Dam Height:	13.9'	
	Year Constructed:	1918		Structural Height:	11.1'	
	Year Modified:	2002		Hydraulic Height:	8'	
	Spillway Type:	Riprap		Spillway Width:	11'	
Hydraulics						
	Surface Area:	122	acres	Drainage Area:	0.8	sq miles
	Normal Storage:	2200	acre-ft	Max Storage:		
	Max Discharge:	585	cfs			

Table 4 Second Pond Dam

Dam ID						
	Dam Name:	Second Pond Dam		State ID:	243-1444	
	Facility:	Grafton Lakes		Federal ID:	NY01313	
	County:	Rensselaer		Hazard Class:	C-High	

Dam Characteristics						
	River or Stream:	Tr-Quacken Kill		Dam Length:	260'	
	Dam Type:	Earth		Dam Height:	10'	
	Year Constructed:	1910's		Structural Height:	9.8'	
	Year Modified:	1979		Hydraulic Height:	7.3'	
	Spillway Type:	Drop Inlet		Spillway Width:	3'	
Hydraulics						
	Surface Area:	31	acres	Drainage Area:	1.2	sq miles
	Normal Storage:	415	acre-ft	Max Storage:	415	acre-ft
	Max Discharge:	1325	cfs			

Table 5 Mill Pond Dam

Dam ID						
	Dam Name:	Mill Pond Dam		State ID:	243-1442	
	Facility:	Grafton Lakes		Federal ID:	NY00906	
	County:	Rensselaer		Hazard Class:	C-High	
Dam Characteristics						
	River or Stream:	Tr-Quacken Kill		Dam Length:	150'	
	Dam Type:	Earth		Dam Height:	10.8'	
	Year Constructed:	1918		Structural Height:	9.5'	
	Year Modified:			Hydraulic Height:	6.6'	
	Spillway Type:	Concrete		Spillway Width:	10'	
Hydraulics						
	Surface Area:	18	acres	Drainage Area:	1.4	sq miles
	Normal Storage:	173	acre-ft	Max Storage:	173	acre-ft
	Max Discharge:	1637	cfs			

Table 6 Dunham Reservoir Dam

Dam ID						
	Dam Name:	Martin Dunham Reservoir Dam		State ID:	243-1430	
	Facility:	Grafton Lakes		Federal ID:	NY00672	
	County:	Rensselaer		Hazard Class:	C-High	
Dam Characteristics						
	River or Stream:	Quacken Kill		Dam Length:	640'	
	Dam Type:	Earth		Dam Height:	52.4'	
	Year	1913		Structural	50.2'	

	Constructed:			Height:		
	Year Modified:			Hydraulic Height:	45'	
	Spillway Type:	Concrete		Spillway Width:	100'	
Hydraulics						
	Surface Area:	91	acres	Drainage Area:	9.95	sq miles
	Normal Storage:	4084	acre-ft	Max Storage:	4500	acre-ft
	Max Discharge:	23248	cfs			

F. Grafton Area Camping Facilities Report

Prepared for Office of Parks, Recreation and Historic Preservation (OPRHP), Planning Unit by Salim Chishti, Park Planner
June, 2011

Introduction

An informal statistical analysis was conducted by OPRHP planning staff to determine the existence of campgrounds in the Grafton Lakes State Park vicinity. An area with a 30 mile radius around the park was chosen as the study area.
In addition, information about campground amenities, types of camping and other information about these facilities was also collected where available. .
The relative index of need (RIN) for camping activities in the park's service area, defined as Albany and Rensselaer Counties, is at or above the state average(OPRHP, 2009). This indicates that the population most served by the park desire and/or take part in camping as an activity.
Although this effort reports only on the camping facilities within 30 miles of the park, it is known, through zip code survey and other on site means, that some of the park users come from further than 30 miles. Those users would have access to campgrounds between the park and their point of origin which we have not surveyed. In addition, potential park users from local origin may elect to travel outside the 30 miles radius of this study to access campgrounds in other areas.

Methods

Internet search and Recreation Facilities Inventory.

Findings

Number of camping facilities.

A total of 24 campgrounds were found within 30 miles of Grafton Lakes State Park. No distinction was made between private or commercial, state or national camp grounds. Table 1 shows the distribution of these facilities in miles from the park.

Table 7

Distance from the Park in miles	Number of Campgrounds
0 – 5	0
5 – 10	2
10 – 15	5
15 – 20	4
20 - 30	13

These findings show that 17 of the 24 campgrounds (over 70%) are further than 15 miles from the park.

Number of camp sites and cabins.

Of those facilities where the information is available there are approximately 1100 camp sites and 11 cabins at campgrounds within 30 miles of the park. Table 2 shows the geographic distribution of those known campsites and cabins.

Table 8

Distance from the Park in miles	Number of	
	Sites	Cabins
0-5	0	0
5-10	227	0
10-15	60	1
15-20	45	0
20-30	772	10
Total	1104	11

These results are similar to the number of campgrounds. Most of the camp sites (817 of the total 1104, or almost 75%) are 15 miles or more from the park. The cabin distribution is more striking in that 10 of the 11 cabins counted (a little over 90%) are over 20 miles from the park.

Some campsites in the Green Mountains National Forest of Vermont and Mount Greylock State Reservation in Massachusetts are backpack campsites with no or few amenities. Those camp sites are more than 20 miles from Grafton Lakes State Park.

Types of Campsites:

All of the campgrounds, except for the backpack only facilities provide campsites suitable for a range of camping experiences from tent camping to large recreational vehicles (RVs). No accurate numbers were available at the time of this writing and so a quantitative analysis of the types of campsites was not done. From the narrative descriptions of the facilities, however, it can be deduced that RV camping was the major market segment that was being sought. Campgrounds with large pull through camp sites prominently displayed that fact on their websites and advertising. If tent camping was supplied, it was often listed as an afterthought or “also available”. The amenities provided (see below) were also geared toward an RV camping experience.

Cabins and Seasonal Camping.

Cabin rentals are a growing trend in the campgrounds analyzed. Most of them either have already added cabins (some very recently) or have plans to do so. Cabin amenities that are available include microwaves, linen service, kitchen and dining service. Some also have private bathrooms and TV with cable service. Cabins generally sleep 4-6 people. In many cases trailers or RVs are also available for rental at the campground.

Some cabins are in the more primitive range, better classified as a “lean-to” with no amenities.

Another trend which seems to be growing in popularity among the campgrounds that were analyzed is seasonal rental. In this type of situation the site is rented for an entire season (e.g. Memorial Day to Labor Day) at a reduced rate. The renter is free to come and go as they please. The popularity of this among trailered RV users is mostly due to the elimination of constant hook-up and disconnects which is necessary when moving from site to site or leaving and coming back for weekend use only. Most campgrounds will also let seasonal campers “personalize” the site by adding flowers, decorations, gazebos and etc.

Campground amenities.

Below is a list of common amenities and services the campgrounds studied provide for the comfort and convenience of their customers.

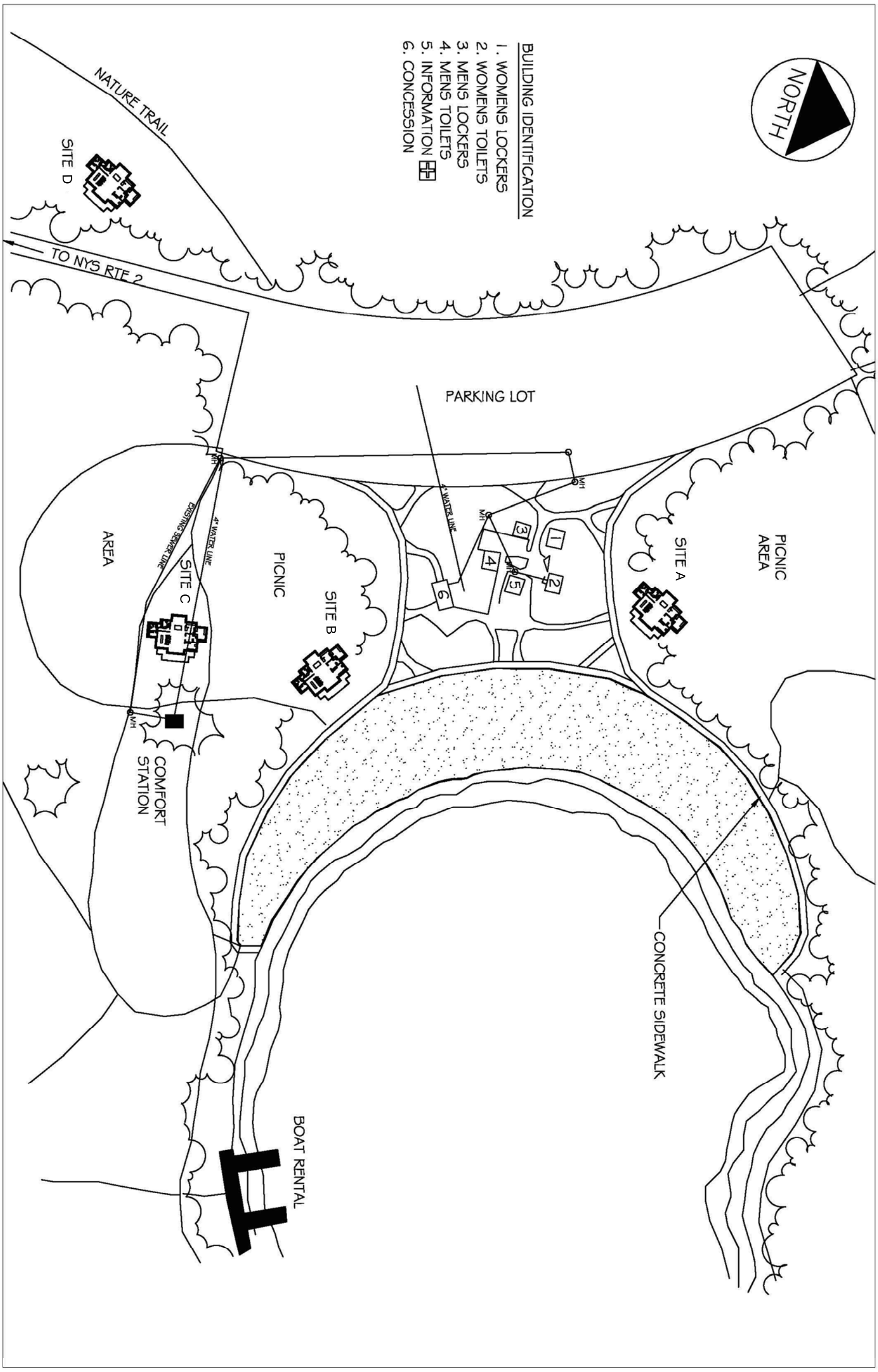
- Water and electric is provided at least to some of the sites in all but the backpack campgrounds.
- All campgrounds provide swimming in either a pool or natural water feature or both. In two cases the swimming is off site but within walking distance.
- Six of the campgrounds have on-site laundry facilities
- Nine provide Wi-Fi, some for free and some for a fee. Some only cover the area around the office or camp store and others cover the entire campground
- Three campgrounds provide cable TV hookups at some of their sites.

Conclusions

The lack of campgrounds within 20 miles of the park, combined with an RIN of 5 may be good indicators that Grafton Lakes State Park is a logical location for new camping facilities. This conclusion is based on the findings that over 70% of the known campgrounds within a 30 mile radius are more than 15 miles away from the park.

Trends in commercial campgrounds are moving towards providing recreational vehicle camping experiences and associated amenities. Although these areas do not preclude tent camping or small trailers (pop-up style), there is a certain ambience associated with large RVs which may not necessarily be attractive to tent and pop-up camping patrons. A new campground in Grafton Lakes State Park could be designed for and marketed to tent/pop-up trailer camping, taking advantage of the lack of this type of site in the immediate area. Use of large RVs would not necessarily be prohibited but simply, site size and design would not be attractive to them.

A campground at the park designed for tents and pop-up trailers would not necessarily need to provide every amenity that is provided at commercial campgrounds. Facilities such as Wi-Fi, laundry, camp store, entertainment and etc. could be provided by entrepreneurs in the hamlet of Grafton or close by in Petersburg or Brunswick. The existing day use activities (swimming, hiking, biking and picnicking) and environmental education programming at the park would also be available to campers. Standard campground amenities such as shower buildings, and potable water supplies would be included. Some camping loops or a select number of sites may be designed to provide electric service.



Nature Center - Alternative Locations Considered

GRAFTON LAKES STATE PARK

Map produced by NYSOPRHP-GIS unit, May 17

Master Plan

Figure A1

Woodland Trail

To Beach Entrance

Park Road

Tree Line

North

Parking and Accessible Entrance

To Park Entrance

Connection to Woodland Trail ••••••••••••••••••••

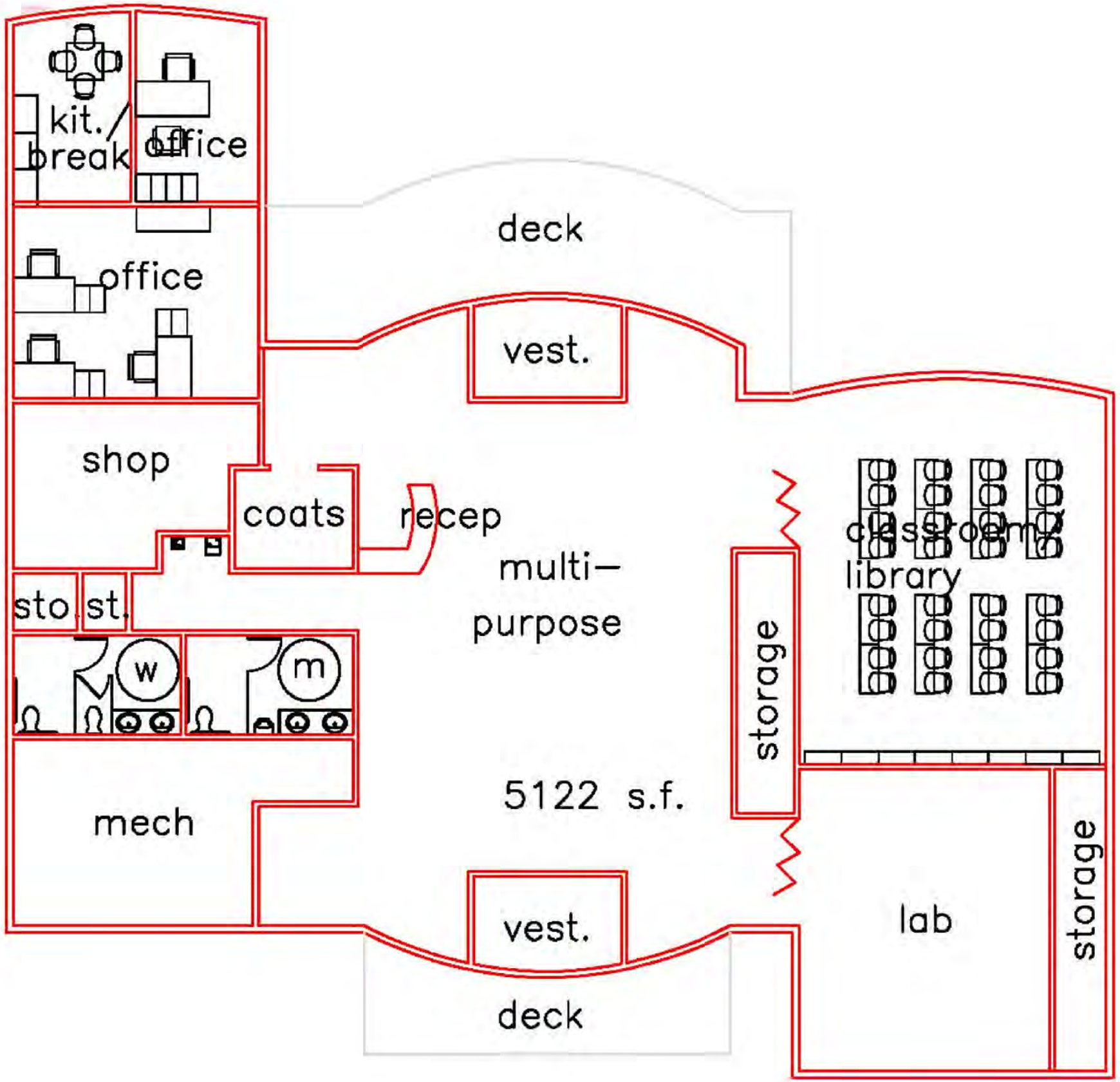
Nature Center - Conceptual Site Plan

GRAFTON LAKES STATE PARK

Map produced by NYSOPRHP-GIS Unit, November 07, 2011.

Master Plan

Figure A2



Grafton Nature Center

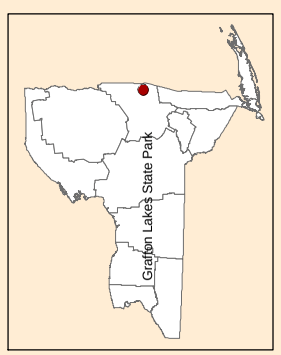
1/16" = 1'–0"

Nature Center - Conceptual Floor Plan

GRAFTON LAKES STATE PARK

Master Plan

Figure A3



Map produced by NYSOPRHP-GIS unit, May 17

Long Pond

Snowmobile Building: expand usage to include campground recreation

Maintenance

New Shower Building

Well & Pumphouse

Water Tower Storage

Walk in Camping Sites (4)

New Shower Building

Long Pond Road

Site Plan subject to change pending formal wetland delineation.

Second Pond

New Shower Building
Walk in Parking

Legend

- Grafton Lakes State Park
- buildings
- water
- roads
- state road

Feet
0 250 500 1,000

Grafton Lakes State Park

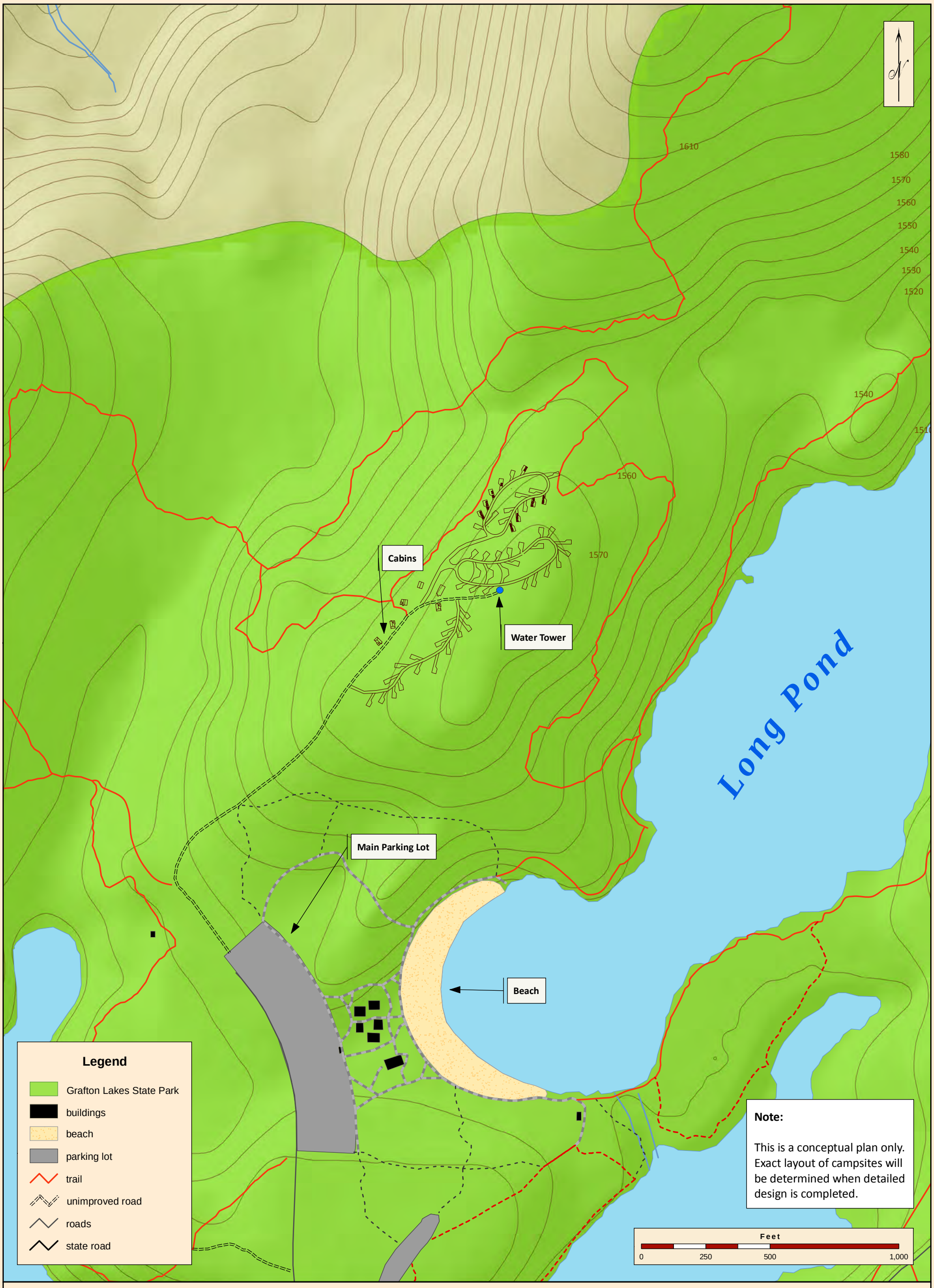
Campground Concept

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, September 13, 2011.

Master Plan

Figure A4



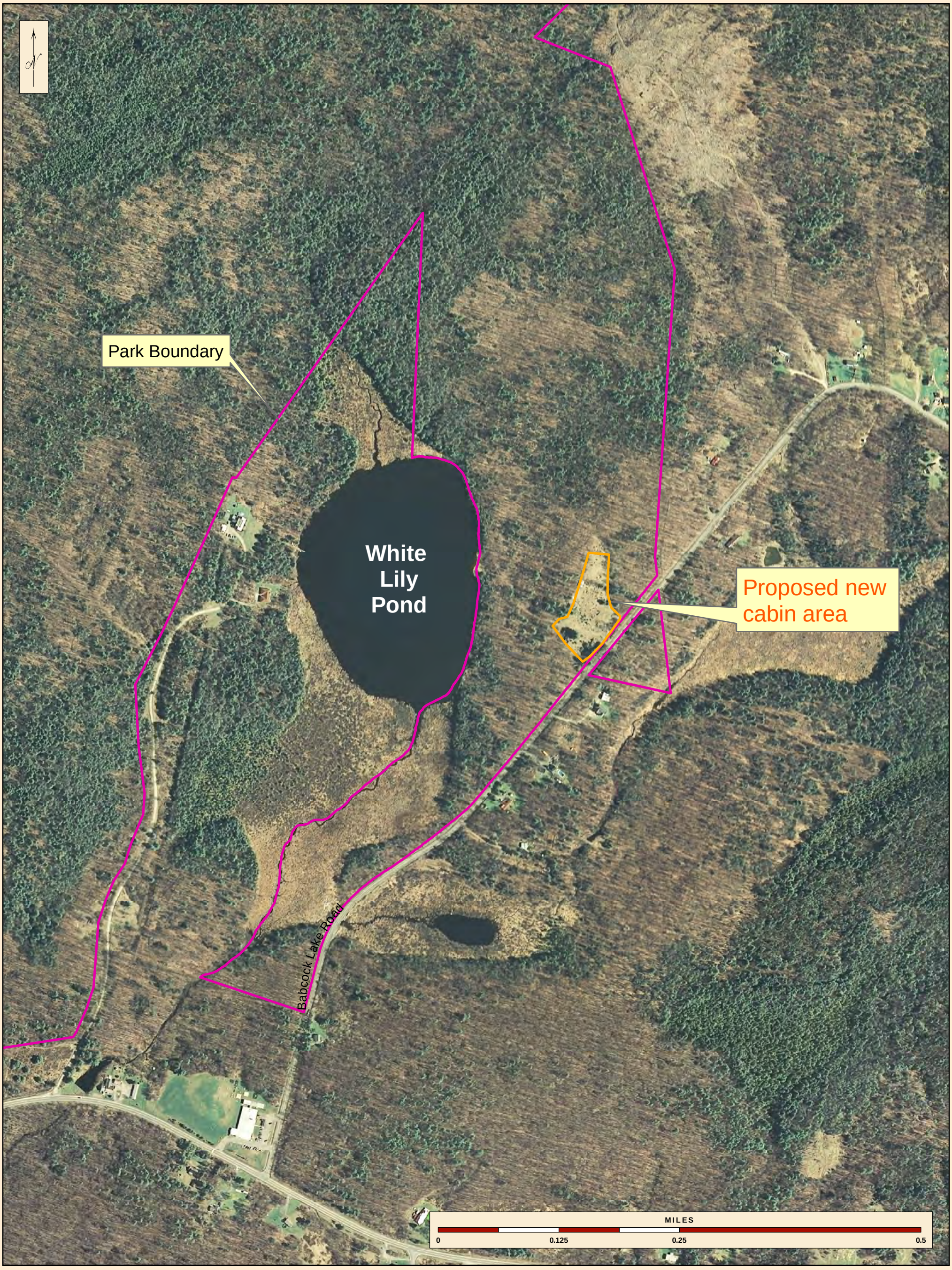
Campground Concept North

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, January 18, 2012.

Master Plan

Figure A5



Grafton Lakes
State Park

Cabin Proposal Map

GRAFTON LAKES STATE PARK

Map produced by NYSOPRHP-GIS Unit, August 11, 2011.

Master Plan

Figure A6

Existing Main Park Entrance

GRAFTON LAKES STATE PARK

Map produced by NYSOPRHP-GIS Unit, August 11, 2011.

Master Plan

Figure A7

Proposed Locations for New Pavilions

GRAFTON LAKES STATE PARK

Map produced by NYSOPRHP-GIS Unit, October 3, 2011.

Master Plan

Figure A8

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Trails Legend

- hiking
- hiking/biking
- hiking/equestrian
- hiking/biking/equestrian
- undesignated trail
- DEC State Forest Trails

Legend

- parking
- equestrian parking
- trailhead
- gate
- Grafton Lakes State Park
- beach
- parking lot
- DEC land
- other public land
- water
- sidewalk
- town boundary
- 20 ft contour
- 100 ft index
- roads
- state road
- unimproved road
- streams

MILES 0 0.25 0.5 1

Existing Trail System

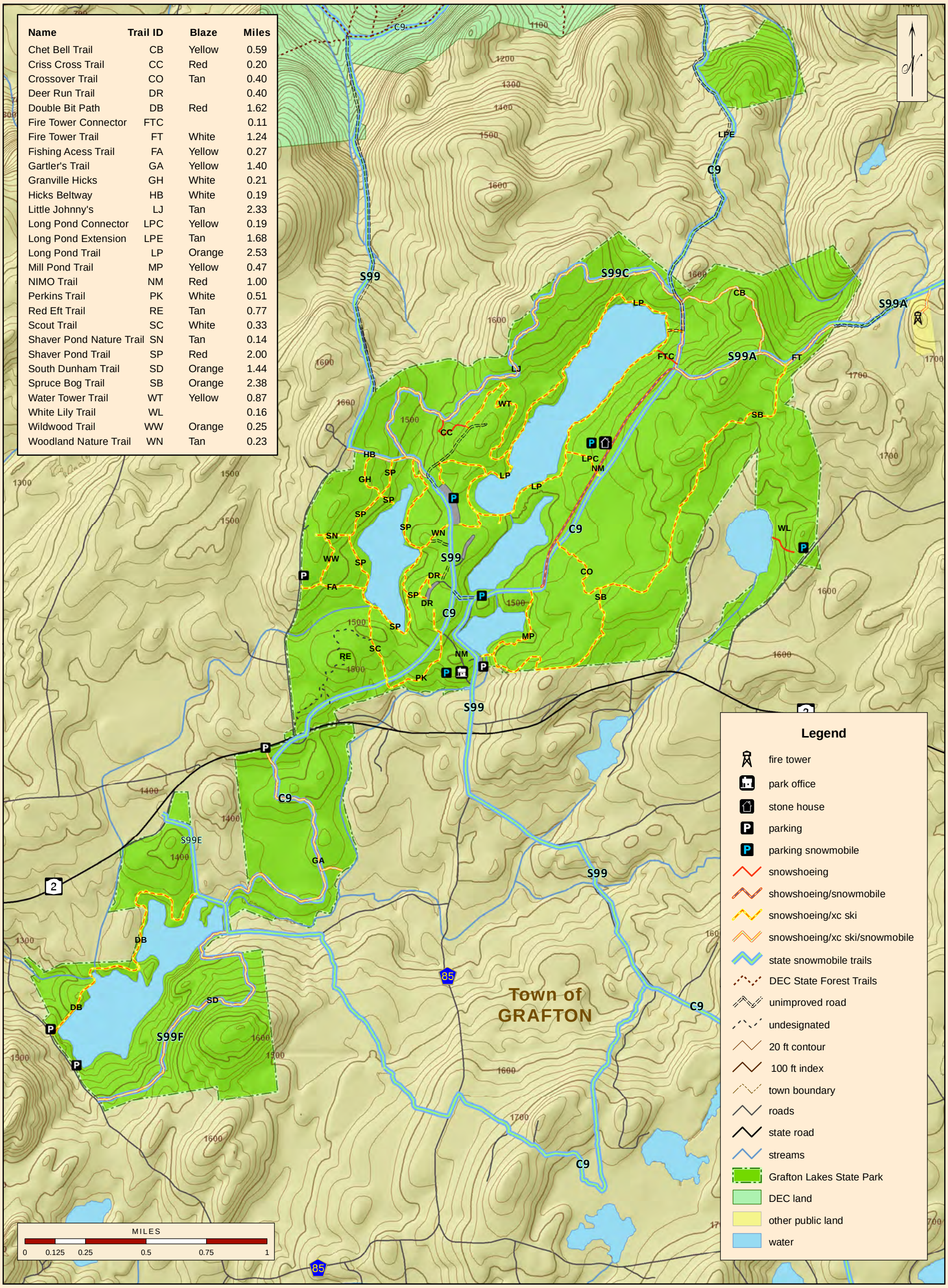
Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, July 13, 2011.

Trails Plan

Figure 1

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23



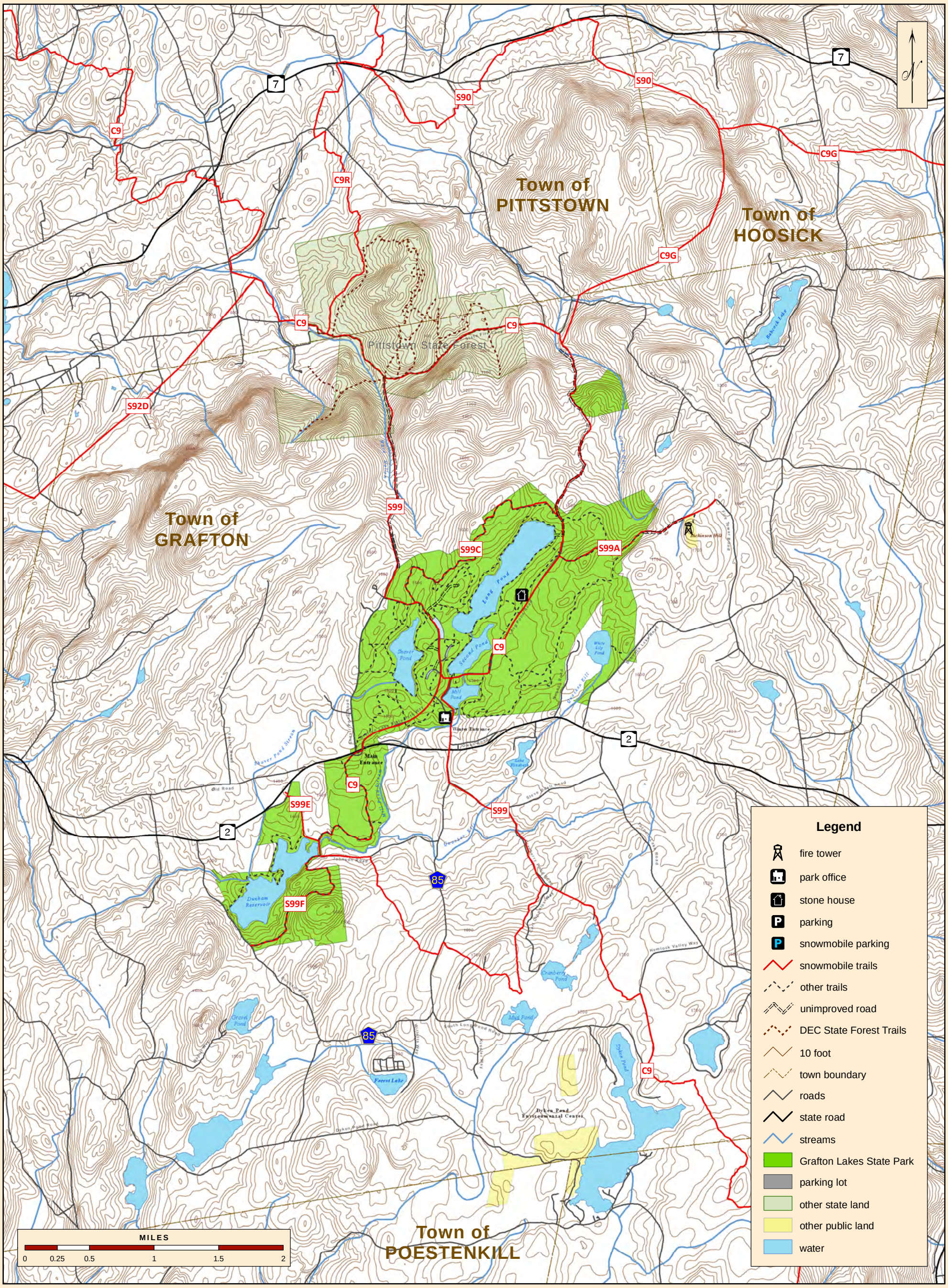
Existing Winter Trail System

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 2



Snowmobile Trail System

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, July 14, 2011.

Trails Plan

Figure 3

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Miles
0 0.25 0.5 0.75 1

LEGEND

trails
unmarked trails
20 foot contour
100 foot index contour
unpaved roads
roads
state road
Grafton Lakes State Park
water

Blazing
insufficient
missing
worn

Obstacle
overgrown
tree

Signage
insufficient/missing
needs repair
erosion
unimproved crossing
muddy trail
wet area
trail erosion

Grafton Lakes State Park

Trails Assessment - North

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, June 17, 2011

Trails Plan

Figure 4

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Shaver Pond Road
Grafton Lake State Park
Shaver Pond Stream
Johnson Road
Dunham Reservoir
Dunham
2
SC
RE
GA
DB
DB
SD

LEGEND

- trails
- roads
- state road
- streams
- 20 foot contour
- 100 foot index contour
- Grafton Lakes State Park
- water

Obstacle
- overgrown
- tree

Blazing
- insufficient
- missing
- worn
- erosion

Signage
- insufficient/missing
- needs repair
- unimproved crossing
- muddy trail
- soggy area
- standing water
- trail erosion

Grafton Lakes State Park

Trails Assessment - South

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, July 15, 2011.

Trails Plan

Figure 5

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Trails Legend

- trails
- undesignated trails
- new trails
- Approved Trails (2008)
- Future Assessment required
- to be closed
- DEC State Forest Trails

LPE
New Fire Tower Connector Reroute
New White Lily Trail
CB
LP
FTC
FT
LJ
WT
Long Pond
SB
NM
CC
HB
LJ
LPC
GH
SP
LP
LP
SP
SP
WN
SN
Shaver Pond
Second Pond
White Lily Pond
WL
WW
SP
CO
FA
Approved: Red Eft Trail
SP
DR
SP
Mill Pond
SB
MP
RE
SC
PK
Approved: Spruce Bog Reroute
New Scout Trail Reroute
Approved: Perkins Trail Extension
New Red Eft Trail Reroute
New Route 2 Crossing

Legend

- fire tower
- park office
- parking
- equestrian parking
- trailhead
- gate
- Grafton Lakes State Park
- beach
- parking lot
- water
- sidewalk
- town boundary
- 20 ft contour
- 100 ft index
- roads
- state road
- unimproved road
- streams

MILES
0 0.125 0.25 0.5

Trail Alternatives - North

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 6

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Trails Legend

- trails
- undesignated
- Approved Trails (2008)
- new trails
- to be closed
- DEC State Forest Trails

Shaver Pond

Mill Pond

Dunham Reservoir

New Route 2 Crossing

New Fruit Loop Trail

New Spur trail connection to Grafton Trail Riders

New Dunham Hill Trail

New Equestrian Parking

New South Dunham Trail reroute

Legend

- fire tower
- park office
- parking
- equestrian parking
- trailhead
- gate
- Grafton Lakes State Park
- beach
- parking lot
- water
- sidewalk
- town boundary
- 20 ft contour
- 100 ft index
- roads
- state road
- unimproved road
- streams

MILES

0 0.125 0.25 0.5

Trail Alternatives - South

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 7

Name	Trail ID	Blaze	Miles
Deer Run Trail	DR		0.40
Fishing Acess Trail	FA	Yellow	0.27
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
Spruce Bog Trail	SB	Orange	2.38
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

New Loop Trails

beach area

Deer Run Area trail connector enhancements

New Trail

park office area

Shaver Pond

Second Pond

Mill Pond

Trails

- trail
- new trail
- to be closed
- undesignated trail
- sidewalk
- unimproved road
- Approved Trails 2008

MILES 0 0.05 0.1 0.2 0.3 0.4

Legend

- parking
- equestrian parking
- trailhead
- roads
- state road
- 10 ft contour
- 100 ft index
- Grafton Lakes State Park
- beach
- parking lot
- buildings
- water
- cemetary
- bathhouse
- concession
- first aid / park office
- maintenance
- nature center
- park office
- playground
- restroom
- gate

Grafton Lakes State Park

Trail Alternatives - Day Use Area

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 8

Name	Trail ID	Blaze	Miles
Chet Bell Trail	CB	Yellow	0.59
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Deer Run Trail	DR		0.40
Double Bit Path	DB	Red	1.62
Fire Tower Connector	FTC		0.11
Fire Tower Trail	FT	White	1.24
Fishing Acess Trail	FA	Yellow	0.27
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.51
Red Eft Trail	RE	Tan	0.77
Scout Trail	SC	White	0.33
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.44
Spruce Bog Trail	SB	Orange	2.38
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.16
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

When NIMO Trail upgraded, remove C9 to NIMO Trail.

Add cross country ski to NIMO Trail.

New NIMO extension trail.

Move S99 adjacent to park road and onto NIMO extension.

Add snowmobile use

New Snowmobile Trail. Allow all uses.

New Non-motorized use parking only.

Remove snowmobiling from South Dunham Trail.

Town of GRAFTON

Legend

- fire tower
- park office
- stone house
- parking
- parking snowmobile
- Grafton Lakes State Park
- DEC land
- other public land
- water
- roads
- state road
- town boundary
- streams
- 20 ft contour
- 100 ft index
- powerline
- new non-motorized trails
- snowshoeing
- showshoeing/snowmobile
- snowshoeing/xc ski
- snowshoeing/xc ski/snowmobile
- state snowmobile trails
- DEC State Forest Trails
- unimproved road
- undesignated
- to be closed

MILES 0 0.25 0.5 1

Grafton Lakes State Park

Trail Alternatives-Winter Trail System

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 9

Name	Trail ID	Blaze	Miles
Beaver Lodge Trail	BL		0.27
Beechnut Trail	BT		1.00
Chet Bell Trail	CB	Yellow	0.59
Conklin Way	CW		0.34
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Double Bit Path	DB	Red	1.30
Dunham Hill Trail	DH		0.86
Fire Tower Connector	FTC		0.21
Fire Tower Trail	FT	White	0.90
Fishing Acess Trail	FA	Yellow	0.27
Fruit Loop Trail	FL		.66
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.84
Rabbit Run Trail	RR		0.37
Red Eft Trail	RE	Tan	0.61
Scout Trail	SC	White	0.38
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.52
Spruce Bog Trail	SB	Orange	2.55
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.74
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23

Trails Legend

- hiking
- hiking/biking
- hiking/biking/equestrian
- undesignated trail
- DEC State Forest Trails

Legend

- parking
- equestrian parking
- trailhead
- gate
- Grafton Lakes State Park
- beach
- parking lot
- DEC land
- other public land
- water
- sidewalk
- town boundary
- 20 ft contour
- 100 ft index
- roads
- state road
- unimproved road
- streams

MILES 0 0.25 0.5 1

Trails Plan

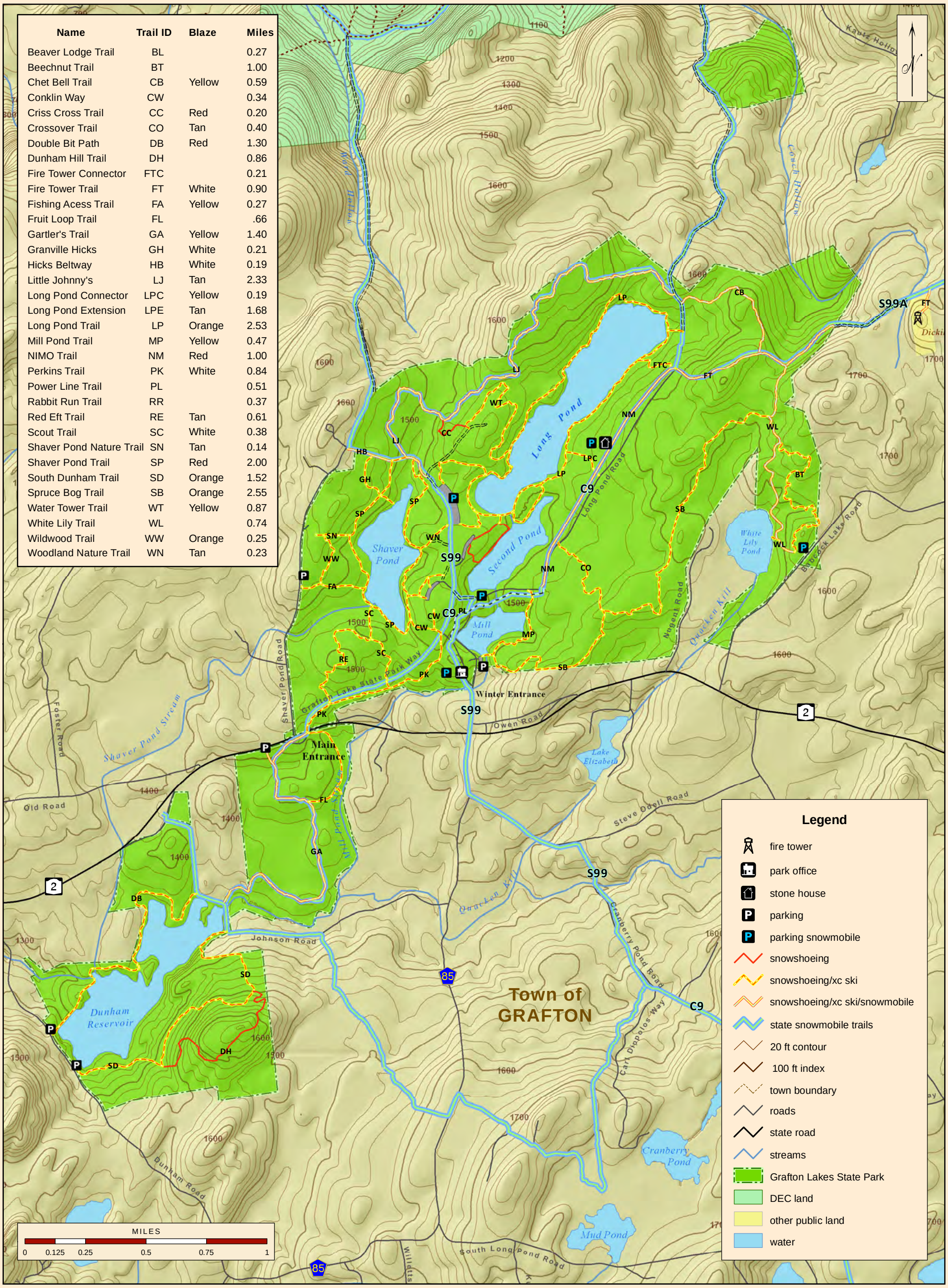
Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 10

Name	Trail ID	Blaze	Miles
Beaver Lodge Trail	BL		0.27
Beechnut Trail	BT		1.00
Chet Bell Trail	CB	Yellow	0.59
Conklin Way	CW		0.34
Criss Cross Trail	CC	Red	0.20
Crossover Trail	CO	Tan	0.40
Double Bit Path	DB	Red	1.30
Dunham Hill Trail	DH		0.86
Fire Tower Connector	FTC		0.21
Fire Tower Trail	FT	White	0.90
Fishing Acess Trail	FA	Yellow	0.27
Fruit Loop Trail	FL		.66
Gartler's Trail	GA	Yellow	1.40
Granville Hicks	GH	White	0.21
Hicks Beltway	HB	White	0.19
Little Johnny's	LJ	Tan	2.33
Long Pond Connector	LPC	Yellow	0.19
Long Pond Extension	LPE	Tan	1.68
Long Pond Trail	LP	Orange	2.53
Mill Pond Trail	MP	Yellow	0.47
NIMO Trail	NM	Red	1.00
Perkins Trail	PK	White	0.84
Power Line Trail	PL		0.51
Rabbit Run Trail	RR		0.37
Red Eft Trail	RE	Tan	0.61
Scout Trail	SC	White	0.38
Shaver Pond Nature Trail	SN	Tan	0.14
Shaver Pond Trail	SP	Red	2.00
South Dunham Trail	SD	Orange	1.52
Spruce Bog Trail	SB	Orange	2.55
Water Tower Trail	WT	Yellow	0.87
White Lily Trail	WL		0.74
Wildwood Trail	WW	Orange	0.25
Woodland Nature Trail	WN	Tan	0.23



Winter Trails Plan

Grafton Lakes State Park

Map produced by NYSOPRHP-GIS Unit, December 20, 2011.

Trails Plan

Figure 11