

## **Appendix A – Analysis and Alternatives**

|  |    |
|--|----|
| Introduction.....  | 3  |
| Natural Resource Protection Strategies/Management .....  | 3  |
| Park Classification .....                                | 3  |
| Designations.....  | 4  |
| Forests.....   | 7  |
| Rare Plants .....  | 7  |
| Grasslands.....  | 7  |
| Wildlife .....   | 8  |
| Invasive Species.....                                    | 9  |
| Lakes and Streams .....                                  | 9  |
| Wetlands .....   | 11 |
| Recreation Resource Development/Management.....          | 11 |
| Boating.....   | 11 |
| Walk-in/Bike-in Camping.....                             | 12 |
| Snowmobile Access.....                                   | 12 |
| Fishing Access .....                                     | 12 |
| Basketball.....  | 13 |
| Beach Area.....  | 13 |
| Disk Golf.....   | 14 |
| Swimming.....  | 15 |
| Hiking .....   | 15 |
| Mountain Biking.....                                     | 16 |
| Running.....   | 16 |
| Cross Country Skiing.....                                | 17 |
| Snowshoeing.....   | 17 |
| Winter Walking/Running.....                              | 17 |
| Cultural Resource Protection Strategies/Management ..... | 17 |
| Archaeological Resources.....                            | 17 |
| Historic Resources .....                                 | 18 |
| Scenic Resources .....                                   | 18 |
| Scenic Resource Protection.....                          | 18 |
| Infrastructure Development .....                         | 19 |
| Education Center.....                                    | 19 |
| Park Office .....  | 20 |
| Park Police Office.....                                  | 21 |
| Rolling Hills Campground.....                            | 22 |
| Pine Woods Campground .....                              | 24 |
| Tulip Hill Picnic Area.....                              | 24 |
| Lakeview Picnic Area.....                                | 25 |
| Hillside Picnic Area .....                               | 26 |
| Beach Picnic Area.....                                   | 27 |
| Cedar Grove Picnic Area .....                            | 27 |
| Old Administration Building Parking.....                 | 28 |
| Sanitary Sewers.....                                     | 28 |
| Waste Management.....                                    | 29 |
| Storm Water Drainage .....                               | 29 |
| Roads and Parking .....                                  | 31 |
| Walkways and Paths .....                                 | 31 |
| Golf Course.....   | 32 |

|   |    |
|---|----|
| Master Plan Alternatives.....                         | 32 |
| Status Quo and Preferred Master Plan Alternative..... | 33 |

## **Introduction**

This appendix contains the results of 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. 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.

## **Natural Resource Protection Strategies/Management**

Natural resource protection and management strategies are currently in place throughout the park to protect the ecological communities and enhance biodiversity. Adaptive management strategies are needed to provide guidance and direction for the management of forest health, significant natural communities, water resources, grassland habitat, fish and wildlife and invasive species (e.g., swallow-wort). Management strategies must also consider potential future impacts to the park, including different user groups, changing environmental conditions and the possible introduction of invasive species like the emerald ash borer and Asian long-horned beetle.

Effective management strategies derive from a thorough understanding of the significance of each of the resources and elements of that resource. Compiling adequate research and background information and documentation is a critical first step toward defining significance and determining the appropriate management measures that are needed to preserve and protect resources. The Natural Heritage report is a key step to gathering the types of information for planning and research necessary to preserving the park. Additional data is also being gathered through water sampling of both Green and Round Lake and continued monitoring of the grassland bird populations and productivity data. Additional information is needed in areas such as invasive species mapping and other wildlife data. Such information and additional research can guide decisions and will help OPRHP evaluate outcomes of management actions. This helps determine if goals are met and can provide a basis for adaptive management if our strategies are not producing desired results. It also allows for learning and can take into account new information. Other critical management strategies include developing and implementing a program for maintenance of natural resources, such as keeping out invasive species once control projects have taken place.

## **Park Classification**

Since its development in 1974, the land classification system has been a component of OPRHP's planning process and the Statewide Comprehensive Outdoor Recreation Plan (SCORP). It is constantly being updated as new information is developed. The current system utilizes natural and cultural resource characteristics, land uses, levels of improvements, physical capacity and other management related data to identify appropriate activities and classifications for lands administered by OPRHP. More information on the land classification system can be found in SCORP (OPRHP 2009)

### **Background for Analysis**

Green Lakes State Park is currently classified as a Recreation Park. This classification is appropriate because of its significant recreational features, high level of use, and mix of natural areas, scenic

areas and quantity of development. Another appropriate classification for this Park could be a Scenic Park. Green Lakes State Park contains elements that fit into both of these classifications.

**Recreation Park** - These parks contain both natural and developed areas, they are designed for a high level of use and occur in rural and suburban areas. The mix of natural, managed and developed areas varies widely. The Park, widely regarded as a recreation destination, with its miles of trails used for walking, running, mountain biking, snowshoeing and skiing, the beach area, picnic areas, natural and cultural resources and camping opportunities fits within this classification.

**Scenic Park** - These parks contain scenic natural features with limited development. They can be found within urban, suburban or rural areas. The mix of natural, managed and developed areas can vary. This type of park is widely regarded for its scenic landscape qualities.

| <b>Alternatives:</b>                          | <b>Considerations:</b>  |
|---|---|
| Alternative 1 – Status Quo<br>Recreation Park | <ul style="list-style-type: none"> <li>• The park is heavily used for recreation.</li> <li>• The park was designed for recreational enthusiasts.</li> </ul>   |
| Alternative 2<br>Scenic Park                  | <ul style="list-style-type: none"> <li>• The park has many scenic qualities including the lakes and scenic vistas.</li> <li>• The park has many developed areas and its primary focus is on recreational elements.</li> </ul> |

**Preferred Alternative: Alternative 1 – Status Quo – Recreation Park**

After reviewing the elements of each park classification and comparing them with the conditions found at Green Lakes State Park, the recommended classification is Recreation Park.

**Designations**

The Green Lakes State Park planning process addresses two laws that allow state agencies to designate lands under their jurisdiction as Natural Heritage Areas (NHA), and Bird Conservation Areas (BCA). A third law, the Park Preserve Law, allows the Commissioner of OPRHP to designate park land as part of a Park Preserve System. This law applies to only lands under the jurisdiction of OPRHP. Designations of park land into the Park Preserve System are being considered within the master plan process.

**Park Preservation Areas**

Article 20 of the Parks, Recreation and Historic Preservation 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**

There is currently no Article 20 designation in Green Lakes State Park. The New York Parks, Recreation and Historic Preservation Law (PRHPL) directs OPRHP to operate and maintain the State Park and Historic Site system 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 (PRHPL Section 3.02). Moreover, Article 20 within the PRHPL is designed to provide long term protection to unique and valuable natural or historical features. See Appendix E – Park Preservation Law.

Many varied recreation opportunities exist in the park. The park’s public campgrounds, Cabin Colony, picnic and day use areas, swimming beaches, and educational facilities draw patrons. The park’s developed road network provides public access to the park’s amenities and scenic driving experiences. The parks diverse landscape also support a wide variety of additional recreational opportunities including hiking, mountain biking, cross-country skiing, disk golf course, a golf course, swimming beach and fishing. These recreational activities are important traditions that contribute to the park’s rich character and history and are entirely compatible with maintaining the ecological health of the park.

In addition to its outstanding recreational value, the park contains ecologically significant communities. The 470 acres of maple basswood rich mesic forest, with 140 acres of Old Growth forest, contains a diverse forest structure that supports important microhabitats which supports high plant and animal diversity. The 23 acres of Rich hemlock Hardwood peat swap is locally significant and adds to overall species diversity of the park. These ecological communities along with the globally rare, designated National Natural Landmark (the meromictic Round Lake) are unique and important both within the park, the state and nationally. . The park’s forests, lakes, grasslands and wetland ecosystems provide habitat for many species of wildlife including at least 161 species of birds, 4 species of bats and various other mammals, reptiles, amphibians, and insects. The park’s relatively high quality intact natural landscapes within a developed suburban context is significant.

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 would apply only to the selected area. See Figure 16 - Park Preservation Area.

| <b>Alternatives:</b>                                      | <b>Considerations:</b>  |
|---|---|
| Alternative 1 – Status Quo<br>No designation              | <ul style="list-style-type: none"> <li>There would not be a designation under Article 20 of PRHPL – the Park Preserve Law.</li> </ul>   |
| Alternative 2<br>Designate a selected area of the park.   | <ul style="list-style-type: none"> <li>This would create a Park Preservation area within the park according to PRHPL section 20.</li> <li>Sections of the park can be excluded from the Park Preservation Area to provide continued availability of existing uses.</li> </ul> |
| Alternative 3<br>Designate entire park as a Park Preserve | <ul style="list-style-type: none"> <li>The nature of the activities and the level of development within portions of the park do not support this designation.</li> </ul>  |

**Preferred Alternative – Alternative 2 – Designate a selected area of the park.**

The designation of a Park Preservation Area in Green Lake State Park will increase the recognition and protection of important and unique natural, resources (the Old Growth maple-basswood rich

mesic forest) while allowing for continued passive recreation including hiking, mountain biking, cross-country skiing, and fishing.

**Bird Conservation Area (BCA)**

The Green Lakes State Park planning process addresses the Bird Conservation Area (BCA) law that allows state agencies to designate lands under their jurisdiction as Bird Conservation Areas.

The Bird Conservation Area Program aims to integrate bird conservation into agency planning, management and research projects, within the context of the agency mission. BCAs are described under Article 11, Title 20 of the Environmental Conservation Law (ECL). The designation itself does not preclude existing or future land use proposals, nor should the designation prohibit park development or operational needs. In addition to recognizing the importance of bird conservation within the planning process, BCA designation 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 designated within Green Lake State Park. In order to qualify for designation as a BCA, a site must meet at least one of the nine criteria outlined in the BCA law. Following staff evaluation of birds and bird habitat, it was determined that the park meets two of the nine BCA criteria as shown below and that portions of the park are eligible for BCA designation.

**Migratory Concentration Site** – The forests, meadows, and lakes of Green Lakes State Park provide stopover habitat for migratory songbirds during both spring and fall migration. (OPRHP 2010)

**Diverse Species Concentration Site** – The park is unique in that it contains significant tracts of both mature forest and grassland habitat, providing habitat for an unusually diverse suite of bird species. In the western portion of the park, is an extensive complex of grasslands and old fields (400 acres). Grassland habitat, and the birds that depend on that habitat, have been declining throughout the northeastern U.S. The grasslands within the Green Lakes BCA provide habitat for a number of regionally declining birds (OPRHP 2010)

| <b>Alternatives:</b>                                   | <b>Considerations :</b>  |
|--|--|
| Alternative 1 – Status Quo<br>No designation           | <ul style="list-style-type: none"> <li>• There would not be any statewide recognition of the park and its importance to bird populations.</li> </ul>   |
| Alternative 2<br>Designate selected areas of the park. | <ul style="list-style-type: none"> <li>• This would provide statewide recognition of the park’s importance in selected areas.</li> <li>• There are two different criteria within the BCA law that have been met in areas of the park.</li> <li>• The grasslands in the park represent the largest concentration of grassland habitat in the New York State Park system.</li> </ul> |

| <b>Alternatives:</b>                        | <b>Considerations :</b>  |
|---|--|
| Alternative 3<br>Designate the entire park. | <ul style="list-style-type: none"><li>• Not all areas of the park meet the criteria for BCA designation.</li></ul> |

**Preferred Alternative – Alternative 2 – Designate selected areas of the park.**

This alternative selects the most appropriate areas for a BCA, focusing on the Old Growth forest and the grasslands. 1,002 acres of the park are designated as a BCA. See Figure 15 – Bird Conservation Area.

### **Forests**

470 acres of Maple-basswood rich mesic forest, a significant forest type, surrounds most of the park’s meromictic lakes and extends well beyond Round Lake to the western portions of the park. It provides a buffer for the lakes from adjacent development and recreational activities. Approximately 140 acres of designated old-growth forest exist within the maple basswood rich mesic forest. These old-growth trees often approach 150-200 years of age and should be protected. Continue to preclude tree removal from the forests except as needed for public safety, scenic vistas and other purposes) is recommended to help ensure the native forest type and old growth forest. In 2009, OPRHP established a Tree Management Policy that limits tree removal activities in State Parks to cases of public safety, invasive species management, or where needed to meet specific goals for wildlife or rare species management (OPRHP 2009) This policy provides an opportunity for people across New York State to enjoy forests of exceptional quality and beauty within the State Parks and to protect biodiversity in the state.

Trails from the lake, campgrounds and western fields provide access to the old-growth area. As a result, potential overuse by patrons must be monitored. Invasive plant species and deer browse currently threaten the regeneration of old-growth understory and should be monitored. Studies should be conducted and strategies developed to protect significant forest types. Introduction of trails in the Old Growth area should be limited thereby minimizing fragmentation and the creation of pathways for the introduction and spread of invasive species which would degrade the quality of the forest community.

### **Rare Plants**

There are no rare plants species that occur in the park, possibly due to disturbances such as deer browsing and invasive species. Four historical records for rare plant populations have been recorded and have not been observed in the past 30 years. Because a comprehensive survey of the entire park has not been done, it is still possible that rare plant species may or may not occur in the park. Additional surveys for rare plants may be undertaken.

### **Grasslands**

The park is a very popular location for birding enthusiasts and offers a diversity of viewing habitats, including woodlands, shrublands, open fields and the lakes. There is potential to restore and manage over 400 acres of grassland bird habitat in the western portion of the park (see Figure 18 – Grassland Habitat Map).

Grassland management is an important component to the protection and preservation of wildlife within the area. The management of the grasslands provides habitat for a wide variety of birds and other animals. Through time and without management, natural succession has taken place in several of these former farm fields. Shrubs and invasive, non-native plants have grown and slowly the fields are reverting back to forest.

To protect and promote the diversity of the park, the management of these former farm fields as grasslands is very important. Grassland management strategies have been developed in the Grassland Management Plan (Appendix I) which protects and enhance the diversity of habitat while balancing recreation, scenic resources and cultural resources. Research needs to be undertaken to determine the quality of the existing grassland and what steps taken to manage them effectively. OPRHP staff have conducted preliminary research and provided recommendations to guide the management of these grasslands including but not limited to the following; remove shrubby vegetation, remove non native trees from hedgerows and the removal of key hedgerows to provide suitable habitat for grassland birds and create an annual/bi-annual mowing plan. It is recommended that this area be managed in a manner consistent with providing and maintaining grassland bird habitat.

The management plan provides a framework for on-the-ground management, taking into account all the various elements within the park and providing measurable goals which enhance grassland habitat and associated interpretive opportunities within the park.

## Wildlife

Approximately 84% of the 330,000 acre State Park System is considered natural habitat. As a general rule State Parks will follow a “passive management” approach, allowing natural processes to maintain wildlife populations. However, there are times when a more active management approach will become necessary in an effort to reach ecological balance.

The Natural Heritage Program’s survey and report for Green Lakes State park observed heavy deer browse and adverse affects to the park as a result. In some areas, including the old-growth forest, this is causing severe damage to native vegetation communities and understory plant diversity. For example, the cedar-dominated limestone woodland on the east end of Green Lake currently has no regenerating cedar because all young stems have been browsed. It is possible that native plant populations, including several rare ones that have not been observed in recent years, may return if browsing pressures are alleviated.

Deer tick abundance has increased markedly in recent years which have resulted in a greater patron interest, awareness and anxiety to exposure to Lyme Disease. According to NYS Department of Health data, currently, 50-60% of adult deer ticks are testing positive for Lyme bacterium. Studies should be undertaken to determine methods for reducing deer tick populations.

The master plan should call for convening a deer management team led by representatives of the departments of Environmental Conservation and State Parks to work collaboratively with other stakeholders in the region to identify and implement a comprehensive, long term approach to deer management.

**Rare Animals** – Although the Natural Heritage Program database does not contain any known records of rare animal species within the park’s boundary, there may still be rare animals located within the park. Additional surveys for rare animals may be undertaken.

## **Invasive Species**

Invasive species have been recognized as a threat to the rare species and significant natural communities in the Park. Exotic plants are found throughout the park, as seeds have been spread over the years from adjacent properties and outside sources such as hikers, animals and other natural processes. The shorelines and shallow water habitats of both Green and Round Lakes are threatened by the encroachment of non-native plant species, including purple loosestrife, common reed (*Phragmites*) and pale swallow-wort. These undesired plant species, if left unchecked, may potentially outcompete native plants and disrupt the scenic vistas that patrons currently enjoy while visiting the lake trails, as well as the ecology of the lakes.

An Invasive Species Management Plan is needed to identify the invasive species that pose significant risks to the natural ecological communities of the Park. An Invasive Species Management Plan should identify a process to follow allowing management and control of invasive species. One of the main goals of the plan should be to delineate buffer zones around areas and/or species that are currently being protected.

It is recommended that an integrated plan for invasive species control be developed consistent with the approach developed by OPRHP. This plan would provide guidance and outreach for long term management. Short term efforts would focus on the following: prevention and eradication of new infestations through early detection/rapid response actions; removal of invasive species in sensitive habitats; and control efforts in those areas where there is a reasonable chance of success for eradication. Implementation of an invasive species management plan is an effective tool in efforts to control invasive species. The plan can help rank and prioritize invasive species populations, develop management strategies for control and monitoring projects and promote a more thorough understanding of invasive issues in the park. It can also help educate staff and visitors, promote early detection of new invasions and ultimately protect the park's biodiversity. The invasive species management plan would address invasive species that have already been identified in the park such as *Phragmites*, purple loosestrife, and swallow-wort., as well as operational/construction practices to prevent the spread of invasive (i.e. cleaning equipment, moving soils, work along and on trails, etc.)

No invasive insects such as the Emerald Ash Borer (EAB) or Asian Longhorned Beetle (ALB) have been found in the park. The plan would also address actions to take if they are discovered.

Early detection and rapid response to new invasions is an important interim strategy. Monitoring of trails and roadways would provide opportunities for early detection and early eradication of populations of invasive species. Cooperation with neighbors, partners and patrons can also help coordinate invasive species programs and activities inside and outside the park, especially where the possibility exists for movement of invasive species into the park from other areas. Invasive species removal can and should be conducted concurrently with another project (such as trail re-routing or picnic area/campground/ roadway re-habilitation) whenever possible.

## **Lakes and Streams**

Green and Round Lakes are two of only eleven glacial plunge-basin meromictic lakes found in the United States. The lakes are often considered the main attraction to the park and contain unique algal and cyanobacterial populations and processes that produce the lakes' brilliant blue and green colors. The lakes are subject to much research and educational activities, and a permitting system is in place to manage this use and monitor for potential impacts to the lakes. Also the beach area, campgrounds and trails adjacent to the lakes, day-use and maintenance areas and the golf course all must be managed to reduce or prevent any impacts to the lakes and their surrounding watershed, specifically

storm water management, reducing erosion and runoff and preserving the quality of the forested buffer surrounding the lakes.

Lake monitoring has been completed by Environmental Management Bureau (EMB) staff at both lakes in 1999-2003, 2006-2007, and 2009. Sampling parameters were selected to determine lake stratification, trophic status, general water quality characteristics and macrophyte composition. Water quality results indicate that the lakes are oligotrophic (characterized by low nutrient concentrations and low plant growth) and have very high water quality and clarity ratings. A thermocline and a chemocline permanently stratify the lake into two distinct layers that do not mix. Green and Round Lakes both contain freshwater calcium reefs that are precipitated by the chemical processes that occur naturally within the lake. Continued long term monitoring of the biota and lake water quality to identify changes occurring in the lakes over time is recommended. Much is still unknown about the underwater communities in the lake and further survey work should be conducted.

Round Lake: DEC has classified Round Lake as a Class AA water body though none of the best uses are employed because Round Lake was officially registered as a National Natural Landmark in 1975. No swimming, fishing or boating is allowed, and little research occurs on the lake. A hiking trail loops around the lake that connects the surrounding old-growth forest with a pedestrian bridge at the southern end of Green Lake. Patrons enjoy a quiet, scenic experience while at Round Lake and have great opportunity to view wildlife. There is an interpretive kiosk in close proximity to the pump house, the only structure near the lake. Best management practices consistent with the National Natural Landmark plan developed for Round Lake will continue. The master plan alternatives for management of Round Lake will address trail surfacing, maintenance and use, management of hazardous, dead and downed trees. To the extent possible, heavy equipment will not be used and the introduction of impervious surfaces will be minimized. Construction on or near Round Lake should be avoided.

Green Lake: DEC has classified Green Lake as a Class B water body. The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival, though these uses are limited at Green Lake.

Deadman's Point is a popular destination along the Green Lake Trail, as it offers a rare look at a unique "reef system" that is composed of hardened calcium carbonate precipitated by the bacteria in the lake. Invasive plant species (*Phragmites* and purple loosestrife) found along the shoreline of Green Lake, as well as erosion, currently threaten the lake shore habitat and water quality of both lakes. No submerged aquatic invasive plant species have been documented in either lake to date. The lakes should continue to be monitored for invasive species. Management actions should focus on protecting and preserving the quality and ecology of the lakes and surrounding forests.

Fishing: Green and Round Lakes have communities of both native and non-native species of warm and cold water fishes. Round Lake is not stocked and does not allow fishing. Rainbow trout are stocked annually in Green Lakes by Onondaga County's Carpenters Brook Fish Hatchery. Fishing is a popular activity in Green Lake. Further analysis is recommended to determine impacts of non-native fish and park activities on the habitat of the lakes.

Research partnerships should be considered with local universities to assess and monitor habitat and other water quality parameters of the lake and to evaluate impacts. A compilation of field data on water quality and reef condition (much of which is unpublished) is recommended to better assess potential impacts of activities in the state park and research activity. Consideration should be given to reducing trail width, evaluating current uses, and stabilizing heavy impact areas along the hiking

trail with native materials to prevent runoff and erosion into the lakes and prevent spread of non-native species into or around the lakes.

## Wetlands

There are two major wetland areas that occur within the park – the 23 acres of rich hemlock-hardwood peat swamp that flows into Round Lake located adjacent to the Brookside Trail and the four separate federally designated wetland parcels (0.15-1.2 acres) at the east end of Green Lake located adjacent to the beach parking lot which were designated in surveys completed in 2008 both of these wetland systems are important to the ecology of the park and lakes, and water that flows through these systems eventually enters Oneida Lake via Chittenango Creek and Lake Brook. Invasive *Phragmites sp.* threatens the wetland parcels located around the outlet of Green Lake and the beach parking lot. Strategies should be developed to protect or improve these wetlands.

## Recreation Resource Development/Management

The recreation resource development alternatives primarily focus on the recreation use areas of the park. These areas currently constitute approximately nine percent of the park. They also include roads, and trails. This section of the chapter also includes other forms of recreation including such activities as golfing, swimming, fishing, hiking and mountain biking. 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.

## Boating

### Background for Analysis

Boating is allowed in Green Lake. Patrons use rental boats to maintain the integrity of the lake and reduce the potential for the introduction of aquatic invasive species. Personal boats are not allowed on the lake allowing for control of the number of boats on the lake. Boating is not allowed on Round Lake.

| Alternatives   | Considerations   |
|--|--|
| Alternative 1 - Status Quo                                     | <ul style="list-style-type: none"> <li>Boat rental would remain at its current capacity.</li> </ul>  |
| Alternative 2<br>Personal boats are allowed within Green Lake. | <ul style="list-style-type: none"> <li>Would increase the quantity of boats on the lake</li> <li>Would create a visual impact to other patrons viewing Green Lake.</li> <li>Would increase the potential for invasive species to be introduced into Green Lake from outside water bodies on boats</li> </ul> |

**Preferred Alternative: Alternative 1 – Status Quo – Boating in Green Lake is allowed using park rental boats.**

The allowance of personal boats within the lakes will put them at risk for the introduction of invasive species and greater impact from a higher quantity of users.

## Walk-in/Bike-in Camping

### Background for Analysis

The opportunity to ride/hike along the Old Erie Canal State Park to the park to camp for one night then continue along the trail was considered. The park currently accommodates patrons who request a place to camp in the campground. If the campgrounds are full, an alternative location is provided.

## Snowmobile Access

### Background for Analysis

The inclusion of snowmobiling within the park was suggested during the public input process. Snowmobiling is allowed on the adjacent Old Erie Canal State Park.

| Alternatives   | Considerations   |
|--|--|
| Alternative 1 - Status Quo                                     | <ul style="list-style-type: none"> <li>• The Old Erie Canal State Park is adjacent to the park and is a snowmobile route.</li> <li>• User conflict along trails does not exist.</li> <li>• The adjoining neighbors do not hear snowmobiles in the park</li> </ul>  |
| Alternative 2<br>Snowmobile access is allowed within the park. | <ul style="list-style-type: none"> <li>• Connectivity to the Old Erie Canal State Park.</li> <li>• A new bridge would need to be constructed to cross Rt. 290 and the canal.</li> <li>• There would be user conflict along heavily used trails.</li> <li>• The adjoining neighbors would hear snowmobiles due to their close proximity.</li> <li>• Parking is available for snowmobile staging is located conveniently outside the park..</li> <li>• The park’s size would not make it a destination park for snowmobilers.</li> </ul> |

**Preferred Alternative: Alternative 1 – Status Quo – Snowmobiles are not permitted in the park.**

Snowmobiling is not compatible with the current activities and park resources and thus will not be allowed.

## Fishing Access

### Background for Analysis

Fishing is currently allowed in Green Lake and is supported by yearly stocking. Fishing is not allowed in Round Lake. The trails and lakeshore at several locations around Green Lake are eroding and in need of enhancements.

| <b>Alternatives</b>   | <b>Considerations</b>  |
|---|--|
| Alternative 1 - Status Quo  | <ul style="list-style-type: none"> <li>• Erosion continues.</li> </ul>   |
| Alternative 2<br>Enhance and/or improve some existing access points at Green Lake. May include construction of fishing platforms. | <ul style="list-style-type: none"> <li>• Access points could be enhanced.</li> <li>• Erosion is reduced</li> <li>• Provide an opportunity for education</li> </ul> |

**Preferred Alternative: Alternative 2 – Enhance shoreline fishing opportunities around Green Lake**

Areas around Green Lake will be improved to provide suitable locations for fishing and viewing the lake. They will be constructed in a manner which will blend in with the surroundings and use natural materials, and mitigate the current erosion issues.

### **Basketball**

**Background for Analysis**

During the construction of the new bathhouse, the basket ball courts were removed to provide suitable staff and vendor parking and an unloading area for supplies. Basketball was a very popular activity at the park.

| <b>Alternatives</b>                              | <b>Considerations</b>  |
|--|--|
| Alternative 1 - Status Quo                       | <ul style="list-style-type: none"> <li>• Funding can be used for other projects</li> </ul>   |
| Alternative 2 - Construct new basketball courts. | <ul style="list-style-type: none"> <li>• Should be located near the beach</li> <li>• Is a very popular activity which was removed due to construction</li> <li>• Meets the vision and goals for the park.</li> </ul> |

**Preferred Alternative: Alternative 2 – Construct new basketball courts**

Basketball courts are provided around the beach area.

### **Beach Area**

**Background for Analysis**

The beach is a very high use area. Sand from the beach migrates through the outlet of Green Lake.

| <b>Alternatives</b>        | <b>Considerations</b>  |
|----------------------------|--|
| Alternative 1 - Status Quo | <ul style="list-style-type: none"> <li>• The beach continues to be groomed, maintained and provides the present level of service.</li> <li>• Sand will be replenished as needed.</li> <li>• Sand will continue to migrate to the lake</li> </ul> |

|  |  |
|--|--|
| <p>Alternative 2</p> <p>Research impacts to the lake and outlet from migrating beach sand.</p> | <p>outlet.</p> <ul style="list-style-type: none"> <li>• Research is conducted to determine methods to contain the sand within the beach area and to reduce the impact of beach sand at the outlet of Green Lake.</li> <li>• Develop and implement strategies from the research.</li> </ul> |
|--|--|

**Preferred Alternative: Alternative 1 – Status Quo – Continue the beach at the current level and Alternative 2 – Research impacts of beach sand migrating into the lake**

The beach area will continue to provide its current level of service to patrons. Additional research will be conducted to determine ways to reduce the amount of sand leaving the beach and entering the lake. Sand leaving through the lake outlet will continue to be monitored for impacts. If negative impacts are found, methods to mitigate these impacts will be developed.

## Disk Golf

**Background for Analysis**

A 9-hole disk golf course exists within the park.

| Alternatives   | Considerations  |
|--|---|
| <p>Alternative 1 - Status Quo</p>  | <ul style="list-style-type: none"> <li>• A 9-hole disk golf course is provided in an open area near the Reserve Shelter. It is not considered a sanctioned course by the PDGA (Professional Disc Golf Association) due to its size and condition.</li> <li>• Continue maintenance of the course and minor improvements.</li> </ul>                |
| <p>Alternative 2</p> <p>Develop the 18-hole championship course as proposed.</p> | <ul style="list-style-type: none"> <li>• Safety issues concerning the course layout and proximity to walkways and roads preclude development as proposed by CNY Disc Golf Association.</li> <li>• More convenient to restroom facilities is recommended.</li> </ul>   |
| <p>Alternative 3</p> <p>Renovate the existing course</p>                         | <ul style="list-style-type: none"> <li>• Upgrade the existing tee pads.</li> <li>• Provide better drainage on course.</li> <li>• Upgrade course amenities including baskets and benches as needed.</li> <li>• Prune vegetation if needed.</li> <li>• Upgrading the existing course would not make the course eligible for PDGA events.</li> </ul> |

**Preferred Alternative: Alternative 1 – Status Quo – A 9-hole disk golf course is currently provided.**

The course will continue to provide the same level of service.

## Swimming

Swimming is allowed in Green Lake within the beach area during designated hours. Lifeguards are provided for patron safety during beach operation. Swimming is a very popular recreational activity at the park and throughout the history of the park the beach has been expanded. It is currently at its maximum capacity thus swimming opportunities will remain the same.

## Hiking

### Background for Analysis

Hiking is currently allowed on all designated trails and pathways within the park. There are approximately 18 miles of designated trails. Some trail sections are located along fall lines and are highly eroded. Other trail sections run through sensitive areas and experience very high use. Proposals included additional trail connectors and designation of existing social trails.

| Alternatives   | Considerations  |
|--|---|
| Alternative 1 - Status Quo   | <ul style="list-style-type: none"> <li>Hiking is allowed on all designated trails.</li> <li>Some trails continue to erode and cause environmental impacts.</li> </ul>   |
| <p>Alternative 2</p> <p>Upgrade the existing trail system including maintenance recommendations, reroutes, closures and development of appropriate connections.</p> <p>Designate some existing social trails that create appropriate linkages within the trail system.</p> <p>Provide better access for trail users to the trails located in the western area of the park.</p> | <ul style="list-style-type: none"> <li>Upgrades will meet sustainability standards, enhance visitor experience and reduce impacts to the natural resources.</li> <li>Designation of sustainable trails and connectors in high-use areas (esp. near lakes) will minimize negative impacts and enhance visitor experience.</li> <li>Improved access to and development of the western trails will alleviate pressure on the Lake Trails and reduce user conflicts.</li> </ul> |

**Preferred Alternative: Alternative 2 – Upgrade existing trails, designate some social trails and improve access to the western trails.**

Providing a year-round, sustainable trail system that is compatible with the resources of the park and enhancing the trail system throughout the park to help reduce overuse and environmental degradation on and around the lake trails are goals identified in the Master Plan. Upgrades as identified in Appendix B - Trails Plan were deemed appropriate to meet these goals. Hiking is an allowed use on all existing and proposed designated trails.

## Mountain Biking

### Background for Analysis

As part of the *Management Plan for a Pilot Multiple Use Trail Program at Green Lakes State Park* (1998), mountain biking was designated as an allowed use on some trails within the park. Designation of mountain biking as a use on trails has not been reconsidered since that time.

| Alternatives   | Considerations  |
|--|---|
| Alternative 1 - Status Quo   | <ul style="list-style-type: none"> <li>Mountain biking is allowed on some designated trails.</li> <li>Based on recommendations in the Trails Plan and desired public use, the existing system for bike use does not address all appropriate connections.</li> </ul>                           |
| Alternative 2<br>Designate additional trails with biking as a use. | <ul style="list-style-type: none"> <li>Provides appropriate use connections within the trail system.</li> <li>Provides multiple loop opportunities for users.</li> <li>Addresses public desire for more park access.</li> <li>Provides appropriate signage designating trail user.</li> </ul> |

### Preferred Alternative: Alternative 2 – Designate additional trails with biking as a use

This alternative provides appropriate use connections and the desire to meet public need. See Appendix B - Trails Plan.

## Running

### Background for Analysis

Running is currently allowed on all designated trails throughout the park. The lake trails experience a very high use by runners due to the flat terrain, the proximity to parking, support facilities, the surrounding residential areas and the scenic nature of the lake area.

| Alternatives   | Considerations   |
|--|--|
| Alternative 1 - Status Quo   | <ul style="list-style-type: none"> <li>Running is allowed on all designated trails.</li> <li>User conflicts and impacts continue on the lake trails.</li> </ul>  |
| Alternative 2<br>Trails are enhanced and promoted in the western portions of the park. | <ul style="list-style-type: none"> <li>Wide mowed paths can accommodate large groups.</li> <li>Most trails in western portion are on relatively flat terrain.</li> <li>The Master Plan recommends development of a day-use area to accommodate users (parking, facilities) and provide better access to the western trails.</li> </ul> |

- Running around the lakes may be reduced.
  - User conflicts and impacts on lake trails and the Old Growth area may be reduced.
- 

**Preferred Alternative: Alternative 2 – Trails are enhanced and promoted in the western portions of the park.**

Enhancing the trail system throughout the park to help reduce overuse and environmental degradation on and around the lake trails is a goal identified in the master plan. Note: Running is classified under Hiking as a trail use for the purposes of the Trails Plan and maps. See Appendix B – Trails Plan.

### **Cross Country Skiing**

Cross-country skiing is currently allowed on most designated trails throughout the park and will remain an allowed use on designated winter ski trails (see Appendix B - Trails Plan). These trails are not groomed but will be marked appropriately.

### **Snowshoeing**

Snowshoeing is currently allowed on all trails and will remain an appropriate activity on all trails. It is recommended to remain as an activity on all trails. Snowshoers are advised not to walk in cross country ski tracks as a courtesy to other users. Appropriate signage is installed to educate patrons on winter trail etiquette.

### **Winter Walking/Running**

The campground roadway is snow plowed to allow patrons a suitable location clear of snow for walking/running within the park during the winter months. The roadway is closed to vehicles and provides a suitable location for winter exercise and recreation. The master plan recommends the continuation of snow plowing this roadway to accommodate park patrons.

## ***Cultural Resource Protection Strategies/Management***

As identified in Chapter 2 – Park Background, Chapter 3 – Environmental Setting and in Appendix D, Green Lakes State Park has a long history with many cultural resources. A comprehensive analysis of these resources has never been conducted and is needed.

### **Archaeological Resources**

A comprehensive literature review or survey of archaeological resources at the park has never been conducted and is needed. Further analysis of these resources should be undertaken in advance of construction projects to help in their planning and design. The rehabilitation and/or modification of historic structures should be in consultation with OPRHP Field Services Bureau (FSB) staff.

## **Historic Resources**

Staff members from the Field Services Bureau have visited Green Lakes State Park as part of this master plan process. Their initial assessment of these structures can be found in Appendix D. The rehabilitation and/or modification of historic structures should be in consultation with OPRHP Field Services Bureau (FSB) staff.

## **Scenic Resources**

Both Green and Round Lake are the most significant scenic resource within the Park. The topography of the Park provides opportunities to view these lakes in a number of ways. Patrons can view the lakes from up close along the shoreline or from above on one of the many vantage points atop the steep slopes. The protection of the lakes is critical to the protection of their scenic qualities and should be included in ongoing management and operational decisions.

Additionally, another significant scenic resource within the park is the fall colors associated with the large quantity of sugar maples and diversity of other tree species found throughout the park and region. The combination of both the flora and the lakes are of significant importance to park patrons. The patrons experience shall be considered when making any decisions which impact the scenic resources within the park and the offsite views of the surrounding landscape to the north and west from the park.

## **Scenic Resource Protection**

The scenic qualities of the park have been well documented through the years. Trails, roadways and other amenities were constructed in a manner to provide many internal scenic views of the lakes, forest, wetlands and the expansive landscape. Offsite vistas of the surrounding undeveloped hills and fields and Oneida Lake in the distance can also be viewed from the clubhouse terrace, golf course and the upper open fields in the western portion of the park. Many of these scenic resource and vista locations are identified on Figure 10 - Scenic Resources Map.

The most predominant views within the park are surrounding the lakes. Patrons are attracted to the scenic qualities of this area and as a result, intensive use occurs. At viewing locations along the lake trail, significant erosion is occurring. These view access points should be enhanced in a manner that minimizes erosion, continues to provide a scenic view of the lake and does not detract from other adjacent lake viewing points. Natural materials such as logs and indigenous weathered stone should be used within a design to stabilize the observation locations while blending in with the natural surroundings in scale, height and vegetative cover. Surrounding Green Lake, these areas will also be used for fishing and that use should be considered during their design.

Scenic vistas exist throughout upper fields in the western portion of the Park and are accessed by trails. The existing hedgerows associated with historic land boundaries in this area may be modified and/or removed for grassland expansion as discussed in the Grassland Management Plan ( Appendix I) The removal of vegetation may impact the offsite vistas. Therefore, selective removal of vegetation should consider the needs of screening negative views of existing utility corridors and preserving the long vistas of the landscape in the distance.

Similar to the upper trails area, the views from the clubhouse and terrace should be preserved by selective clearing and thinning of the trees that overgrow the historic vista of Green Lake's beach area. Acquisition of adjacent properties and purchase of development rights should be considered to preserve the long offsite panorama of the largely undeveloped countryside and Oneida Lake from this prominent viewing area. Historic landscapes and scenic vistas of the lakes will be analyzed and

strategies developed to enhance historic views while protecting significant species. Guidance will be provided through the regional landscape architects.

Screen plantings should be considered when developing new facilities within the park to preserve the natural landscape characteristics and view shed qualities identified above and on the scenic resource map. This may require long range planning to allow the plantings to mature to provide for future development plans such as the relocation of the campground and associated trails.

## **Infrastructure Development**

An analysis of the infrastructure options was conducted to determine the needs of the park. Through the years, infrastructure improvements at the park have been varied.

A building inventory map has been produced identifying the name and location of the structures as well as the recommendations for each. See Figure 13 – Building Inventory.

## **Education Center**

### **Background for Analysis**

Educational opportunities at the park are provided with a small nature center located in the Pine Woods Campground, nature walks and informational panels. The building currently serving as the Nature Center is not meeting the needs of the park or the program. Greater educational opportunities have been requested through the public process and are needed throughout the park. The agency recognizes that the park has significant resources and could be better interpreted for the public.

| <b>Alternatives</b>   | <b>Considerations</b>   |
|---|---|
| Alternative 1 - Status Quo  | <ul style="list-style-type: none"> <li>• Educational programming is coordinated from the park office and an nature center located in the campground</li> <li>• The Nature Center is not in a highly visible location for all park patrons. It caters to primarily campground patrons.</li> </ul>  |
| Alternative 2<br>Construct a new nature center near the lake.                               | <ul style="list-style-type: none"> <li>• Would be located in a high traffic area and serve many park patrons.</li> <li>• Would be constructed in a parking lot with minimal impact to vegetation.</li> <li>• Would be constructed within the Green Lake watershed.</li> <li>• Would provide convenient access to the lake trail for interpretive/educational walks.</li> <li>• Would be another structure located in an already heavily used area.</li> <li>• May create further congestion in the area.</li> </ul> |
| Alternative 3<br>Turn the Reserve Shelter area into an education and interpretive facility. | <ul style="list-style-type: none"> <li>• Would provide a regional educational facility for the Central Region.</li> <li>• An Educational Center would be constructed adjacent to the existing restroom/parking area.</li> </ul>   |

|  |  |
|--|--|
| <p>Alternative 4</p> <p>Provide satellite educational areas throughout the park which focus on cultural and natural topics.</p> <p>Using facilities such as: the CCC boat house, the pump house, the Reserve Shelter, expanded park office, bathhouse, or the Old Admin Building or the golf course maintenance area, which will require substantial rehabilitation.</p> | <ul style="list-style-type: none"> <li>• The Reserve Shelter which was constructed by the Civilian Conservation Corps (CCC) could serve as an outdoor classroom, when not rented. It will be available for rental.</li> <li>• Makes use of existing facilities and utilities.</li> <li>• Would be an opportunity to use existing structures to enhance educational opportunities within the park in advance of an educational center.</li> <li>• Would serve patrons at various locations throughout the park</li> </ul> |
|--|--|

**Preferred Alternative: Alternatives 3 – Turn the Reserve Shelter area into an education and interpretive facility and 4 – Provide satellite educational areas throughout the park.**

In the short-term providing improved educational and interpretive opportunities within the park is done by creating satellite areas which discuss certain themes (alternative 4). Using existing structures is a sustainable alternative and makes use of a historic structures which otherwise might not have the funding for restoration. Other interpretive areas would be designated around the park as part of this alternative. The Reserve Shelter will remain as an open shelter and as an outdoor classroom area. A new Educational Center is constructed with compatible architecture within the Reserve Shelter area. The educational themes would include both park and regional topics. Upon the design of this area, site drainage shall be addressed to minimize erosion along the lake trail.

## Park Office

**Background for Analysis**

The administrative responsibilities undertaken within the park office have grown since its construction. To address the current administrative and accessibility needs, more office space is required.

| Alternatives                           | Considerations   |
|--|--|
| Alternative 1 - Status Quo             | <ul style="list-style-type: none"> <li>• The park office remains located in its current location.</li> <li>• All administrative responsibilities are coordinated from within this building.</li> <li>• Structure remains under sized for the operational demands.</li> </ul> |
| Alternative 2 - Construct a new office | <ul style="list-style-type: none"> <li>• Significant costs associated with the construction of a new building.</li> <li>• Utilities would need to be run to a new structure.</li> <li>• Impacts to the land may be increased.</li> </ul>                                     |

|  |  |
|--|--|
| Alternative 3 - Expand the existing office | <ul style="list-style-type: none"> <li>• Existing structure is in good condition and expansion would be reasonable</li> <li>• Current location at main entrance is suitable</li> <li>• Lower cost with the expansion of an existing structure than with constructing an entirely new one.</li> <li>• Utilities and parking are provided.</li> <li>• The area around the current park office does not contain sensitive habitat.</li> <li>• Is a sustainable practice.</li> </ul> |
|--|--|

**Preferred Alternative: Alternative 3 – Expand the existing office**

The location of the park office provides the opportunity for patrons entering the park to stop and orient themselves with the park features. An addition to the existing structure is a sustainable practice. The expanded park office will make use of the existing building, utilities and parking.

## Park Police Office

**Background for Analysis**

The Park Police use Green Lakes State Park as the region’s northern zone headquarters. The office is located within the maintenance area and is not sized appropriately for its current use. A new structure is required to address operational demands upon the Park Police.

| Alternatives   | Considerations   |
|--|--|
| Alternative 1 - Status Quo   | <ul style="list-style-type: none"> <li>• Park Police are located within the maintenance area.</li> <li>• The area does not provide suitable office space or storage space.</li> <li>• Is located ¼ mile from the park office. Is located near the main use area of the park.</li> <li>• The office does not meet the operational needs of the Park Police.</li> <li>• The office serves as the northern zone headquarters.</li> </ul>  |
| Alternative 2<br>Construct a new Park Police office adjacent to the park office. | <ul style="list-style-type: none"> <li>• Is conveniently located near the highway.</li> <li>• Provides the needed expansions necessary for standard police operations</li> <li>• Located near the park office facilitating greater communication between the park staff and Park Police.</li> <li>• The park office and Park Police offices may share common facilities.</li> <li>• Allows the park maintenance operations to expand into the current Park Police area.</li> </ul> |

**Preferred Alternative: Alternative 2 – Construct a new Park Police office.**

The Park Police will relocate their offices and operations from the maintenance area as part of the expansion of the park office area. This area is well suited for development and the requirements needed by the Park Police and staff. Shared uses such as bathrooms, parking, conference room and kitchen is a sustainable option and will provide better communication between park staff and police. Additionally, the maintenance area will then be less congested upon the moving of the Park Police.

**Rolling Hills Campground**

**Background for Analysis**

The Rolling Hills Campground has 73 campsites, many of which are located close together and in muddy conditions during a rain event. The campground was designed for small campers and tents. However, since the design of the campground campers vehicles and needs have grown. There is minimal if any buffer between campsites providing no privacy and a reduced camping experience. Additionally, the current Rolling Hills Campground location restricts access to the western half of the park for day users. As a result, the most significant quantity of day users is focused around the meromictic lakes.

| <b>Alternatives</b>  | <b>Considerations</b>  |
|--|--|
| Alternative 1 - Status Quo                                 | <ul style="list-style-type: none"> <li>• The campground remains in its current location.</li> <li>• Campsites remain in their current condition.</li> <li>• Camping impacts occur such as compaction, pad creep, hard surfacing and 24 hour usage of the area.</li> <li>• Campers continue to impact surrounding vegetation adjacent to sensitive areas.</li> </ul>        |
| Alternative 2<br>Improve existing campground               | <ul style="list-style-type: none"> <li>• Correct drainage reducing the erosion on the lake trail and into the lake.</li> <li>• Improve signage and trails in the area.</li> <li>• Campsite improvements would include; surfacing, spacing between sites, screening/planting between campsites, upgrades to the electric sites and/or electrifying new sites.</li> </ul>    |
| Alternative 3<br>Expansion of the Rolling Hills campground | <ul style="list-style-type: none"> <li>• Expands development into dense conifer woods.</li> <li>• Campsites would be directly adjacent to the Sisters of St. Francis property.</li> <li>• The current problems associated with trespassing on private land would increase.</li> <li>• Interferes with creating a suitable trail head to the upper trail system.</li> </ul> |

Alternative 4

Move campground to a location behind the park office and to the west of the park road.

- Provides the opportunity to enhance the visitor experience.
  - Allows day use access to the upper western trails.
  - Allows for the sustainable reuse of Rolling Hills as day use area, reusing existing restroom facilities.
  - Allows for adequate spacing between campsites.
  - Reduces camper impacts to the Round Lake watershed.
  - Eliminates round the clock use of the area.
  - Reduces impervious surfaces.
  - Soil compaction occurs in the new location.
  - Soil compaction would be allowed to repair/restore in former location.
  - Allows campsites suitable for larger Recreational Vehicles (RV's) at the proposed location.
  - Utilities are adjacent to the proposed location.
  - Water and septic demands are reduced adjacent to sensitive areas.
  - The quantity of campsites would remain close to what is currently available.
  - All campsites should be electrified.
  - Not all campsites should have sewer hook up. A dump station should be provided replacing the current one.
  - The proposed campground location is close to the park office, provides nice views, somewhat sheltered by a windbreak and has well drained soil.
- 

**Preferred Alternative: Alternative 2 – Improve existing campground and Alternative 4 – Move campground to a location behind the park office and to the west of the park road**

Moving the campground to a new location is the preferred long term alternative. It will provide for a higher quality experience for patrons, it protects the lake watershed, reduces the impact to the vegetation and allows for the western portion of the park to be used more conveniently by day users, reducing the day use impacts to the lake area. Within the short term, the existing campground is improved including campsite surfacing, redesign of campsites, providing a vegetative buffer between campsites and where possible, electrical upgrades and the improvement of stormwater management.

## Pine Woods Campground

### Background for analysis

The Pine Woods campground has received improvements through the years. The campsites are in need of enhancements for patron enjoyment and privacy. Campsites need further definition to reduce conflicts between neighboring campsites.

| Alternatives                                     | Considerations   |
|--|--|
| Alternative 1 - Status Quo                       | <ul style="list-style-type: none"> <li>• The campground remains in its current location.</li> <li>• Campsites remain in their current condition.</li> <li>• Camping impacts occur such as compaction, damage to surrounding vegetation and pad creep</li> <li>• Drainage issues remain.</li> </ul>   |
| Alternative 2<br>Enhance the existing campground | <ul style="list-style-type: none"> <li>• Correct drainage issues reducing the erosion on the lake trail and into the lake.</li> <li>• Improve signage and trails in the area.</li> <li>• Campsite improvements would include; surfacing, spacing between sites, screening/planting between campsites, upgrades to the electric sites and/or electrifying new sites.</li> </ul> |

### Preferred Alternative: Alternative 2 – Enhance the existing campground

The Pine Woods Campground will see improvements.

## Tulip Hill Picnic Area

### Background for Analysis

This picnic area has a small shelter, comfort station and is located on the hill adjacent to the Hillside picnic area. The limited use of this area is due to the layout and the conditions of the tables, soil erosion, compaction and exposed roots.

| Alternatives                                    | Considerations  |
|---|---|
| Alternative 1 - Status Quo                      | <ul style="list-style-type: none"> <li>• Picnic area remains in existing condition with no improvements.</li> </ul>   |
| Alternative 2<br>Improve the entire picnic area | <ul style="list-style-type: none"> <li>• Improve grading, drainage, and surface type in the whole area including around picnic tables and next to existing toilet building.</li> <li>• Provide designated service drives designed to minimize impacts to picnic area.</li> <li>• Repair or remove existing historic picnic tables and mitigate as directed by Historic</li> </ul> |

- Preservation. Provide new tables as needed.
- Designate proper amount of tables and grills as American Disabilities Act (ADA) accessible.
- Improve access trails to beach/bathhouse area and Lake Trail, which may include alternate routes, stair, trail, or combination of both.
- Install directional signage for trail access.
- Improve accessible route to the existing small shelter at overlook.

**Preferred Alternative: Alternative 2 – Improve the entire picnic area**

The Tulip Hill Picnic Area is improved. Stormwater management is integrated into the improvement of the open areas and parking lots. Grills and tables are improved with quantities of each assessed. Some of the CCC picnic tables are preserved and documented (Appendix G - Tulip Hill Picnic Tables). Access to the area is improved for both ADA and to provide more convenient access to the beach area. Signage within the area is assessed and designated service drives are moved away from the high use area. See Appendix F - Beach Access Improvements for more information on this area.

**Lakeview Picnic Area**

**Background for Analysis**

This reservable picnic area provides a rental tent, picnic tables and a large open area. It sees significant use.

| <b>Alternatives</b>  | <b>Considerations</b>   |
|--|---|
| Alternative 1 - Status Quo   | <ul style="list-style-type: none"> <li>• Picnic area remains in existing condition</li> <li>• Large group rental tent remains in the Lakeview Picnic Area for use by patrons.</li> <li>• Aesthetics are compromised.</li> <li>• The costs of constructing and maintaining a permanent shelter are not incurred.</li> <li>• Tent can be removed if needed.</li> </ul>  |
| Alternative 2<br>Improve the picnic area including storm water management, and the construction of a new picnic shelter. | <ul style="list-style-type: none"> <li>• Replace the temporary vinyl tent with a permanent shelter. The style should match the stone Reserve Shelter.</li> <li>• Shelter should be large enough to accommodate 150+ people.</li> <li>• Provide an accessible path to structure.</li> <li>• Close access trail leading along ridge above lake.</li> <li>• Uses existing comfort station and utilities.</li> <li>• Larger groups can be accommodated with a larger shelter.</li> <li>• Repair existing picnic tables and provide new</li> </ul> |

as needed.

- Investigate and improve storm water system to reduce erosion.

**Preferred Alternative: Alternative 2 – Improve the picnic area, stormwater management and construct a new shelter**

The Lakeview Picnic Area is improved. A permanent shelter that is compatible with park architecture will replace the tent. Stormwater management is improved to reduce the rate of water flowing into the lakes and creating soil erosion.

**Hillside Picnic Area**

**Background for Analysis**

The Hillside picnic area is very popular and sees significant overuse. The shaded conditions limit the quantity of grass which will grow in the area. Water flow from the hillside creates mud and erosion within this area. A stormwater management diversion ditch has been constructed to minimize erosion within this area.

| <b>Alternatives</b>   | <b>Considerations</b>  |
|---|--|
| Alternative 1 - Status Quo  | <ul style="list-style-type: none"> <li>• Picnic area remains in existing condition with bare soil, mud and exposed roots.</li> </ul>   |
| Alternative 2<br>Improve picnic area  | <ul style="list-style-type: none"> <li>• Evaluate the carrying capacity for the site.</li> <li>• Improve the grading and drainage in entire area</li> <li>• Consider establishing central open area with lawn turf other hardy ground cover with picnic tables ringing the perimeter.</li> <li>• Consider placing individual garbage cans closer to roadside perimeter for easier collection by park staff.</li> <li>• Create a path along eastern edge of the area at toe of slope or through picnic area to connect the main parking lot old park road to Old Administration Building and lake trail.</li> </ul> |
| Alternative 3<br>Reduced picnic area/shared parking for the Old Administration Building | <ul style="list-style-type: none"> <li>• Provide a parking area for the Old Administration Building within the picnic area.</li> <li>• Include listed items in Alternative. #2</li> <li>• Improve access road to new lot from East Beach parking lot</li> </ul>  |

**Preferred Alternative: Alternative 2 – Improve picnic area**

The picnic area is improved. Based on the conversion of the Old Administration Building to a rental facility, alternative 3 will be reassessed in the future. See Appendix F - Beach Access Improvements for more information concerning this alternative.

**Beach Picnic Area**

**Background for Analysis:**

The beach picnic area is the most heavily used picnic area in the park.

| <b>Alternatives</b>                         | <b>Considerations</b>  |
|---|--|
| Alternative 1 - Status Quo                  | <ul style="list-style-type: none"> <li>• Picnic area remains in existing condition</li> </ul>  |
| Alternative 2<br>Expand/improve picnic area | <ul style="list-style-type: none"> <li>• Improve/finish newly constructed area to the east of the Green Lake outlet including reseeded and designating an ADA accessible picnic site off new stone dust path or old roadway.</li> <li>• check on path structure/drainage;</li> <li>• Improve access to picnic areas from the parking lots.</li> <li>• There is a need to improve the condition of the grass.</li> <li>• Continue to control poison ivy.</li> <li>• Improve signage in the area.</li> </ul> |

**Preferred Alternative: Alternative 2 – Expand/improve picnic area**

The picnic area is improved. See Appendix F - Beach Access Improvements for more information.

**Cedar Grove Picnic Area**

**Background for Analysis:**

This picnic area near the beach was removed decades ago and had since grown in. If opened it would expand picnic opportunities within the area.

| <b>Alternatives</b>                      | <b>Considerations</b>  |
|--|--|
| Alternative 1 - Status Quo               | <ul style="list-style-type: none"> <li>• The area would expand the vegetative buffer between the parking area and the beach area.</li> </ul>   |
| Alternative 2<br>Restore the picnic area | <ul style="list-style-type: none"> <li>• Provides additional shaded picnic opportunities near the beach.</li> <li>• Uses existing parking lots.</li> <li>• Install pedestrian bridge over the lake outlet.</li> <li>• Will take pressure off of the Hillside picnic area.</li> </ul> |

**Preferred Alternative: Alternative 2 – Restore the picnic area**

The former Cedar Grove picnic area is reopened and expands opportunities for picnicking around the beach. See Appendix F - Beach Access Improvements for more information.

**Old Administration Building Parking**

**Background for Analysis:**

The designated parking for the Old Administration Building is in the east beach parking lot, 800’ away from the building. This distance is not convenient for group functions held in the building. Other areas for convenient parking are limited.

| Alternatives  | Considerations   |
|---|--|
| Alternative 1 - Status Quo                                    | <ul style="list-style-type: none"> <li>• Patrons park in the east beach parking lot and walk to the building.</li> <li>• Is not convenient for patrons.</li> <li>• American Disabilities Act (ADA) Access is provided adjacent to the building.</li> </ul> |
| Alternative 2<br>Provide roadside parking on access road      | <ul style="list-style-type: none"> <li>• Would provide convenient parking.</li> <li>• Mature trees would be removed.</li> <li>• The Hillside picnic area would be impacted.</li> <li>• The single lane roadway would need widening.</li> </ul>             |
| Alternative 3<br>Provide parking in the Hillside picnic area. | <ul style="list-style-type: none"> <li>• Will eliminate or reduce the Hillside picnic area.</li> <li>• Will provide convenient access to the Old Administration Building.</li> </ul>   |

**Preferred Alternative: Alternative 1 – Status Quo**

The designated parking area will remain in the east beach parking lot. Other alternatives were not deemed suitable for the site. The rental of the Old Administration Building to groups is a relatively new use. A reassessment of these alternatives will take place in the future. Upon that time, if the usage trends warrant, alternative 3 may be considered. See Appendix F - Beach Access Improvements for more information.

**Sanitary Sewers**

There are several different sanitary systems within the park of varying age, type, and condition, the largest of which is the sand filter at the beach. These systems do have a design life expectancy and will need periodic replacement; many have reached or exceeded their lifespan. The sanitary system status is a top priority within this Master Plan. Listed below are the necessary improvements which have been identified.

**Rolling Hills** - This area is in a very constricted area with no apparent area for expansion; a system failure would require relocation, or run as gravity system to an expanded Pine Woods system.

**Pine Woods** - This area has room for expansion.

**Cabin Colony and RV Dump Station** - A system failure would require relocation.

**Reserve Shelter Area** - A system failure would require either expansion or relocation. The current location of sanitary system could impact future storm water mitigation.

**Lakeview** - If the system fails, current area is available for expansion or repair

**Golf Course Club House** - If this system fails, area is available for expansion or repair.

**Golf Course Comfort Stations** (2) - If the system fails, current area is available for expansion or repair.

**Golf Maintenance** – If this system fails, area is available for expansion or repair.

**White Barn** - If the system fails, the area is available for expansion or repair.

**Park Office** – The current area is available for expansion or repair.

**Urban Cabin** – The system type and status unknown; will require field verification.

**Beach Area** - (includes Bathhouse, West Beach Comfort, Old Admin. Building, Tulip Hill, Superintendent's and Foreman' Residences, Park Maintenance Buildings) - Failure of this system will require design of a new system, either as:

**Alternative #1** - Replacement in kind; difficult due to location of existing system in a confined area between park roads, boundaries, wetlands, and requirements of permitting and daily monitoring and testing of sewage effluent.

**Alternative #2** - Redesign and relocation, consisting of a new sub-surface disposal system in an alternate location.

**Preferred Alternative #2** - This alternative will require further studies and investigations including coordination with other agencies. If at a future time, public sewer becomes available adjacent to the park at Route 290, the intention is to tie the park's sewer system to the public system.

## Waste Management

Waster management strategies have been improved to further protect the Old Growth Forest from potential impacts of invasive species brought in from other areas of the park. Improvements to the golf maintenance stockpile area are identified in the list below.

- Construct a swale between the former stockpile area for trees and brush to filter potential invasive species seed from entering the Old Growth Forest.
- Plant a buffer zone with native vegetation between the tree and brush pile and the active use zone.
- Create an area in the center of the loop road for the stockpiling of rock, dirt and concrete.

## Storm Water Drainage

Stormwater drainage within the park encompasses a wide range of systems, both natural and constructed, such as roads, parking lots and other impermeable surfaces. A significant amount of this runoff and associated eroded material flows into both Green and Round Lakes. Reducing the amount

of stormwater runoff into the lakes is important to protect the water quality of these unique lakes. Stormwater structures are a source of continual maintenance. Many areas require analysis and redesign to minimize erosion and sedimentation of the lakes and outfall stream. Stormwater drainage will be a component of each project within the park and implemented on a case by case basis.

## Roads and Parking

As identified in Chapter 3, the park has 2 entrances and 1503 parking spaces. This quantity of parking is suitable for much of the park. Additional parking should include a day use parking lot along the campground road. Upon the construction of the Rolling Hills Day Use area (currently the Rolling Hills Campground), parking will be provided to accommodate day use activities within that area.

Roads and roadway culverts throughout the park are in various conditions and will require analysis, design, and reconstruction/rehabilitation. Several roads need resurfacing and shoulder work. Erosion is taking place along many roads and drainage structures beneath the roads are in need of replacement. Additional roadway analysis indicates the following roadway improvements are necessary. The extent of repair and reconstruction of these projects is to be determined on a case by case basis.

### **New road and parking projects:**

- A service road should be constructed between the Capital Facilities Construction Crew Headquarters and the park office to eliminate the need to access the highway.
- Redesign and reconstruct the West Beach parking lot to include new entrances/exits to improve traffic circulation within the lots and enhance sight distance; consider realignment of parking spaces to accommodate new recreational facilities such as basketball and possibly tennis.
- Expand the golf course parking lot by approximately 20 feet in width. Lot will be restriped and circulation will be improved.

### **Reconstruct the following roadways/parking lots in their current alignment:**

- Main park road between clubhouse and Lakeview Picnic area.
- Route 5 entrance road from Route 5 to Golf Clubhouse.
- Cabin Colony Roads.
- Road between Cabin Colony and Rolling Hills.
- Road to Reserve Shelter.
- Reserve Shelter parking lot.

## Walkways and Paths

The walkways and paths throughout the park are in need of in need of upgrade or replacement to meet the needs of the park. A list of necessary projects is listed below.

- Construct a boardwalk through the wetland area between the East Beach parking lot and the bathhouse.
- Construct a pedestrian bridge over the lake outlet between east parking lot and Cedar Grove picnic.
- Construct a pedestrian path from the Tulip Hill picnic area to Lakeside picnic area and lake.
- Provide a pedestrian connection between the Tulip Hill picnic area and the Hillside picnic area/bathhouse.

## **Golf Course**

The golf course is in need of various repairs. Necessary improvements to the golf course are identified in the list below.

- Improve stormwater drainage from the course.
- Improve the golf cart pathways.
- Rehabilitate bunkers.
- Construct a golf cart storage area and pavilion.
- Redesign the golf cart parking area on the 18th tee.
- Provide interior and exterior improvements to the Clubhouse. Redesign the patio area to be on a single level and ADA accessible.
- Investigate the adaptive reuse of the old golf barn.
- Continue to integrate the pesticide management plan to reduce pesticide use on the course.

## ***Master Plan Alternatives***

Alternatives have been considered for the master plan. The first is the Status Quo alternative, which consists of current facilities, programs and practices as described in the Environmental Setting – Chapter 3. Under this alternative, the current resource protection, recreation, operation, capacity and facility practices will continue. The increasing demands on the park will not be met or mitigated. The recreation and resource protection strategies would not be expanded.

Other alternatives are identified and a preferred alternative derived from the analysis and assessment of the safety, natural, cultural, recreational, operational issues and suggestions identified through the public input process. The preferred alternative presented here is the one that best meets the goals for the park.

Many of the recommended directions chosen in analyzed elements were the status quo element alternatives. 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 improvements.

The park provides opportunity for scenic vistas and the need for protection of these vistas was identified in the planning process. In addition, administrative needs were identified and addressed by expanding the park office. The Park Police office will be moved to a new location, adjacent to the park office. Improvements will be made to the campgrounds with long range plans including moving the Rolling Hills Campground to a more suitable location. In its place, a day use area will be created allowing convenient access to the western portion of the park. Recreational opportunities will be enhanced by improvements to the trail system including additional signage, addressing erosion and protect sensitive natural resources such as wetlands. Picnic areas and the golf course will see improvements to better serve the needs of patrons and reduce erosion into the lakes and the golf course will see improvements to which will serve the park staff and patrons. Educational and interpretation opportunities will be expanded park-wide through strategies developed during the planning process.

The following summary table lists the Status Quo Alternative and Preferred Master Plan Alternative elements.

## ***Status Quo and Preferred Master Plan Alternative***

**Table 1 - Status Quo and the Preferred Alternative Summary**

| <b>Element/Topic</b>             | <b>Status Quo Alternative</b>  | <b>Preferred Master Plan Alternative</b>  |
|----------------------------------|--|---|
| Park Office                      | Located at the Route 290 entrance and does not meet the administrative needs of the park.                      | The current office is expanded to meet the administrative needs of the park.  |
| Park Police Office               | Located in the Maintenance Area and does not meet the administrative needs. The current location is undersized | Is moved adjacent to the park office to better serve the needs of the Park Police.  |
| Education Center/Reserve Shelter | A small nature center is provided within the Pine Woods campground.  | An Education Center is constructed adjacent to the Reserve Shelter. The Reserve Shelter use will expand, functioning as an outdoor classroom and a reservable shelter.  |
| Rolling Hills Campground         | Is in need of surfacing, a greater distance between campsites and electrical upgrades.                         | In the short term the campground is improved including campsite surfacing, distance between campsites, providing a vegetative buffer where possible, electrical upgrades and the improvement of stormwater management.<br><br>The long term goal is to move the campground to a new, more suitable location behind the park office. |
| Pine Woods Campground            | Is in need of surfacing, a greater distance between campsites and electrical upgrades.                         | Will receive enhancements including campsite surfacing upgrades, an increase in the vegetative buffer between campsites where possible, grading and drainage improvements   |
| Golf Course                      | Golf course needs improvements.  | Improvements will include the rehabilitation of bunkers and golf cart pathways, the redesign of the golf cart parking area on the 18 <sup>th</sup> tee, stormwater drainage from the course is managed, and a pavilion  |

| Element/Topic               | Status Quo Alternative   | Preferred Master Plan Alternative   |
|-----------------------------|--|---|
| Lakeview Picnic Area        | Uses a temporary rental tent and stormwater from the area washes across the lake trail and into the lake.  | is constructed. The clubhouse will continue to see both interior and exterior improvements including the redesign of the patio area. The investigation of an adaptive reuse of the Old Golf Barn will take place. Golf Course parking area will be expanded.<br>A permanent shelter is constructed and stormwater management is improved. |
| Hillside Picnic Area        | This heavily used area sees erosion from stormwater and patron usage.  | Stormwater management is improved reducing soil erosion into the lake. After further assessment of the recently renovated Old Administration Building for group rental, vehicle parking may be considered within this area.   |
| Tulip Hill Picnic Area      | The area is in need of improvements. Picnic tables are poorly laid out and are used infrequently as a result. Stormwater improvements are needed to reduce the impact to the lake trail and Green Lake. The connection to the beach needs improvement. | Stormwater management is improvement of the open areas and parking lots. Grills and picnic tables replaced or repaired as needed with quantities and locations of each reassessed. Approximately half of the stone picnic tables will be removed to provide ample space between tables A connection to the beach area is constructed.     |
| Cedar Grove Picnic Area     | Was removed decades ago and never replaced.  | The former Cedar Grove picnic area is reopened and expands the picnic opportunities around the beach.   |
| Beach Picnic Area           | Heavy use picnic area which has seen improvements.   | Access from the parking lots is improved. An ADA picnic site is constructed and stormwater runoff is improved.  |
| Old Administration Building | Functions as a reservable building and a warming hut in the winter.  | The Old Administration Building will remain as a reservable rental building for group functions. During the winter months, the building will continue to be used as a warming hut.  |
| Maintenance Area            | Shared with Park Police. Additional  | Will expand to the area where the Park Police   |

| Element/Topic                | Status Quo Alternative   | Preferred Master Plan Alternative   |
|------------------------------|--|---|
| Cabin Colony                 | space is needed for operational needs.<br><br>These historic cabins are in need of improvements and do not conform with the American Disabilities Act (ADA). | currently occupy upon the construction of the new Park Police office.<br><br>This area will see improvements including ADA enhancements.  |
| Classification               | The park is classified as a Recreation Park.   | The park remains classified as a Recreation Park.   |
| Bird Conservation Area (BCA) | The park does not have the BCA designation.  | A BCA designation for the western portion of the park is created.   |
| Park Preservation Area (PPA) | The park is not designated.  | A PPA is created surrounding Round Lake.  |
| Education and Interpretation | Is provided through programming, nature center and panels.   | Is enhanced including more educational panels within structures. An education center is constructed which will focus on the park and the region   |
| Lake Habitat Management      | Strategies are in place to protect lake habitat.   | Continued management strategies will remain. Stormwater management and Integrated Pest Management (IPM) will enhance these strategies.  |
| Wetland Management           | Wetlands are monitored for impacts.  | Wetlands will continue to be monitored. The Brookside trail is enhanced to minimize impact to the wetland. A boardwalk will be constructed through the wetland per the Beach Access Improvements Plan (Appendix F). |
| Grassland Management         | The grasslands are evolving into a successional shrubland. Invasive species are growing within the grassland.  | The grasslands are managed and include scheduled mowing. A grassland management plan was developed (Appendix I ) Invasive species, shrubs and certain hedgerows are removed to enhance bird habitat.                |
| Invasive Species Management  | Invasive species are present within the park. A detailed plan does not exist for their removal. They are removed through                                     | The master plan recommends the creation of an invasive species management plan. Invasive species will continue to be removed.   |

| Element/Topic    | Status Quo Alternative   | Preferred Master Plan Alternative  |
|------------------|--|--|
| Waste Management | <p>coordinated volunteer efforts.</p> <p>Brush, trees, grass leaves rock and dirt are managed in the golf maintenance area. Trash is hauled to public/private landfills.</p> | <p>The golf maintenance area is reconfigured to better handle materials and reduce the potential impact to the surrounding Old Growth Forest. Recycling is expanded. Trash continues to be hauled to public/private landfills.</p> |
| Boating          | <p>Only rental boats are allowed in Green Lake.</p>  | <p>No change recommended for boating.</p>  |
| Fishing          | <p>Fishing is only allowed in Green Lake. The lake is stocked.</p>   | <p>No change recommended for fishing.</p>  |
| Basketball       | <p>The basketball court was removed during the bathhouse construction.</p>   | <p>Basketball courts are constructed in the beach area.</p>  |
| Disk Golf        | <p>A 9-hole course exists.</p>   | <p>Improvements are made to the existing disk golf course.</p>   |
| Swimming         | <p>Swimming is allowed within the designated area in Green Lake.</p>   | <p>No change recommended for swimming.</p>   |
| Trails           | <p>A trail system exists throughout the park that includes hiking, mountain biking, skiing and snowshoeing.</p>  | <p>The trail system will see enhancements. See Appendix B – Trails Plan for more information.</p>  |