New York State
Department of Environmental Conservation

Division of Lands & Forests

Lake George Wild Forest
Draft Unit Management Plan

including: Mossy Point Boat Launch,
Horicon Boat Launch, South Bay Boat Launch

Towns of Hague, Bolton, Horicon, Warrensburg, Lake George, Lake Luzerne, Queensbury and Chester, Warren County
Towns of Dresden, Fort Ann and Putnam, Washington County
Towns of Ticonderoga and Schroon, Essex County

November 2006

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PREFACE

The Lake George Wild Forest Unit Management Plan has been developed pursuant to, and is consistent with, relevant provisions of the New York State Constitution, the Environmental Conservation Law (ECL), the Executive Law, the Adirondack Park State Land Master Plan, Department of Environmental Conservation ("DEC") Rules and Regulations, department Policies and Procedures and the State Environmental Quality and Review Act.

The State land which is the subject of this Unit Management Plan (UMP) is Forest Preserve lands protected by Article XIV, Section 1 of the New York State Constitution. This Constitutional provision, which became effective on January 1, 1895 provides in relevant part:

> *"The lands of the state, now owned or hereafter acquired, constituting the Forest Preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, or shall the timber thereon be sold, removed or destroyed."*

ECL §3-0301(1)(d) and 9-0105(1) provide the department with jurisdiction to manage Forest Preserve lands, including the Lake George Wild Forest.

The Adirondack Park State Land Master Plan (APSLMP) was initially adopted in 1972 by the Adirondack Park Agency (APA), with advice from and in consultation with the department, pursuant to Executive Law §807, now recodified as Executive Law §816. The APSLMP provides the overall general framework for the development and management of State lands in the Adirondack Park, including those State lands which are the subject of this UMP. The APSLMP places State land within the Adirondack Park into the following classifications: Wilderness, Primitive, Canoe, Wild Forest, Intensive Use, Historic, State Administrative, Wild, Scenic and Recreational Rivers, and Travel Corridors, and sets forth management guidelines for the lands falling within each major classification. The APSLMP classifies the lands which are the subject of this UMP as part of the Lake George Wild Forest.

The APSLMP sets forth guidelines for such matters as: structures and improvements; ranger stations; the use of motor vehicles, motorized equipment and aircraft; roads, jeep trails and State truck trails; flora and fauna; recreation use and overuse; boundary structures and improvements and boundary markings.

Executive Law §816 requires the department to develop, in consultation with the APA, individual UMPs for each unit of land under the DEC's jurisdiction which is classified in one of the nine classifications set forth in the APSLMP. The UMPs must conform to the guidelines and criteria set forth in the APSLMP. Thus, UMPs implement and apply the APSLMP's general guidelines for particular areas of land within the Adirondack Park.

Executive Law §816(1) provides in part that "(until) amended, the APSLMP for management of State lands and the individual management plans shall guide the development

and management of State lands in the Adirondack Park." Thus, the APSLMP and the UMPs have the force of law in guiding DEC actions.

It is important to understand that the State Land Master Plan has structured the responsibilities of the department and the Agency in the management of State lands within the Adirondack Park.
Specifically, the APSLMP states that:

"..... the legislature has established a two-tiered structure regarding state lands in the Adirondack Park. The Agency is responsible for long range planning and the establishment of basic policy for state lands in the Park, in consultation with the Department of Environmental Conservation. Via the master plan, the Agency has the authority to establish general guidelines and criteria for the management of state lands, subject, of course, to the approval of the Governor. On the other hand, the DEC and other state agencies with respect to the more modest acreage of land under their jurisdictions, have responsibility for the administration and management of these lands in compliance with the guidelines and criteria laid down by the master plan."

In order to put the implementation of the guidelines and criteria set forth in the APSLMP into actual practice, the DEC and APA have jointly signed a Memorandum of Understanding concerning the implementation of the State Land Master Plan for the Adirondack Park. The document defines the roles and responsibilities of the two agencies, outlines procedures for coordination and communication, defines a process for the revision of the APSLMP, as well as outlines procedures for State land classification, the review of UMPs, state land project management, and state land activity compliance. The MOU also outlines a process for the interpretation of the APSLMP.

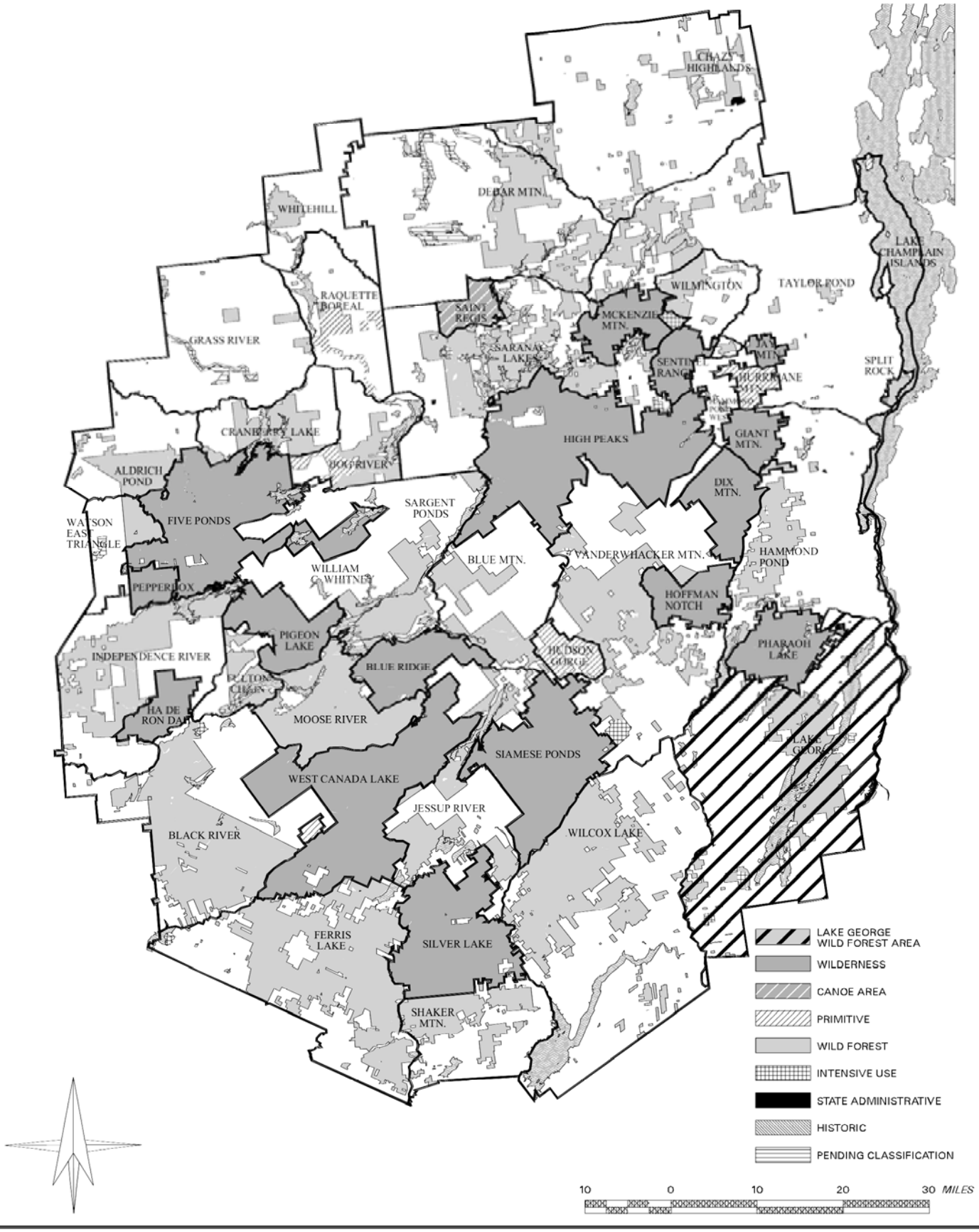
No Action Alternative or Need for a Plan

From the legal perspective, the "No Action" alternative of not writing an UMP is not an option. Executive Law §816 requires the Department of Environmental Conservation to develop, in consultation with the APA, individual unit management plans (UMPs) for each unit under its jurisdiction classified in the APSLMP. In addition an UMP serves as a mechanism for the DEC to study and identify potential areas for providing access to the LGWF for persons with disabilities in accordance with the Americans with Disabilities Act (ADA of 1990). The UMP also serves as an administrative vehicle for the identification and removal of nonconforming structures as required by the APSLMP.

From the administrative perspective, the "No Action" alternative is not an option. The UMP provides guidance necessary for staff to manage the lands of the unit in a matter that is most protective of the environment while at the same time providing the most enjoyable outdoor recreation opportunities for the public. Without the UMP the sensitive environmental resources of the unit could be negatively impacted and it is highly likely that the public enjoyment of such resources would decrease. Management of the Lake George Wild Forest via an UMP will allow the DEC to improve public use and enjoyment of the area, avoid user conflicts and prevent over

use of the resources (e.g., through trail designations, access restrictions, placement of campsites and lean-to in relation to a sensitive resource, etc.).

ADIRONDACK PARK
LAKE GEORGE WILD FOREST AREA



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SECTION I. INTRODUCTION

A. Planning Area Overview

The Lake George Wild Forest (LGWF) is a complex of state-owned lands which comprise one of the most well-known and heavily-used portions of the Adirondack Park. This UMP is written to present and assess the various issues facing the unit, and the management actions proposed to address those issues.

The topography of the unit is best described as broken, rolling terrain with mountainous areas. The unit is home to many lakes, ponds, and rivers occupying the valleys formed by the mountains and hills. The highest summits of the unit are found on Black Mountain (2,646 ft.) and Five Mile Mountain (2,256 ft.) which are found, respectively, on the east and west shores of Lake George. Many summits of the unit lack trails, however, and range in height from a few hundred feet to 1,500 ft. or slightly higher. Locals refer to this area as the 'Foothills of the Adirondacks', a reference to the unit's position in relation to the well-known High Peaks region situated to the northwest of Lake George.

The primary attraction of the unit is Lake George. The lake was first known and named by the Abenaki people who traveled and fished it as 'An-Di-A-Ta-Roc-Te' (i.e., "the lake that shuts itself in"). This name was changed, at least in the eyes of western Europeans, to 'Lac Du Saint Sacrement' by the French missionary Fr. Issac Jogues, the first European to discover the lake, on May 30, 1646. This name held on for another 109 years until August 28, 1755 when British General Sir William Johnson named the lake in honor of his sovereign, then King George II. Despite an attempt in the 1800's to rename the lake 'Horicon' due to the prevalence of lingering anti-British sentiments in the nascent United States, the name 'Lake George' has held to this day.

Lake George and the region surrounding it have a rich history which includes early exploration of the American continent, pivotal battles of the French and Indian and Revolutionary Wars and an association with such influential historical figures as Cornelius Vanderbilt and Andrew Carnegie. Today, Lake George draws many people to the waters, trails and forests of the unit. For many, Lake George itself is the sole destination. For others, the attraction is to the unit's hundreds of miles of marked trails. Trails lead to such easily accessible peaks as Prospect Mountain and Sleeping Beauty. For those seeking greater challenges, the trail networks of the Tongue Mountain Range and the Black Mountain area offer multi-day backpacking and camping experiences in remote locations. Those seeking remoteness may desire to undertake the challenge of climbing a summit without a formal trail such as Catamount or Elephant Mountains, or perhaps find their way to an isolated pond such as Spectacle Pond, or to the headwaters of the wetlands to the south of Dunham's Bay.

Those entering the LGWF mainly engage in such active recreational pursuits as hiking, canoeing, skiing, mountain biking, equestrian travel, fishing, hunting, and snowmobiling. However, many also enter the unit for pastimes such as bird and wildlife viewing, scenic photography and painting, natural resource studies and education, and such 'pass-through' recreation as touring the fall colors.

Part of the Adirondack Park's popularity and ability to offer so much to so many lies in its geographic setting.

The 71,133-acre Lake George Wild Forest is located in the southeastern portion of the Adirondack Park, approximately 60 miles north of the city of Albany, NY and 30 miles north of the city of Saratoga Springs, NY. Its proximity to the Northway also makes it the most rapidly accessible portion of the Adirondack Park; accessible to residents of the metropolitan areas surrounding New York City.

The unit includes lands in the towns of Bolton, Chester, Hague, Horicon, Lake George, Lake Luzerne, Queensbury, and Warrensburg in Warren County and the towns of Dresden, Fort Ann, and Putnam in Washington County. Also, small areas of the unit are in the towns of Ticonderoga and Schroon in Essex County. It is generally bounded on the north by the Warren County line, on the west by the Hudson River, and on the east and south by the Adirondack Park boundary. The Lake George Wild Forest unit is within the jurisdictional boundaries of DEC Region 5.

Given the diversity of the unit's recreational and educational opportunities, its proximity to major population centers, and the accessibility of the majority of its natural resources, the unit faces a variety of pressures and unique management concerns. The proximity of the unit to many population centers and the ease with which the unit may be accessed cause over use and in some areas inappropriate use issues. Further, an ever-growing number of users and the diversity of their use of the unit are leading to user conflict issues throughout the unit. It is a goal of this plan to incorporate management practices in the LGWF which serve to protect the natural resources of the unit, while leaving these resources accessible to the user. This plan will recommend the application of management practices established in other units of the Adirondack Park, as well as the consideration and potential application of several new management concepts.

B. Unit Geographic Information

Boundaries of the Lake George Wild Forest and the three boat launches (Horicon, Mossy Point, and South Bay) are depicted on the official Adirondack Park Land Use and Development Plan Map and State Land Map (APA, 2003). Property lines, where surveyed, are blazed, painted yellow, and marked with Forest Preserve signs. There are numerous private parcels that are adjacent to or surrounded by LGWF.

State-owned lands of the unit are located in the following tracts and/or patents:

WARREN COUNTY

French Mountain Tract:

Lots 12, H, 47, 48, 36, and 40.
Portions of Lots 42 and 46.
Lawrence Boil and Tuthill

Houghton Tract:

Unspecified Lots of the western portion of the tract.

Luzerne Tract:

Lots 101, 102, 103, 104, 105, 106, 107, 114, 115, 116, 117, and 119.
Portions of Lots 113, 118 and 133.

Garland Tract:

Lot 3.

Northwest Bay Tract:

Lots 40, 82, 86, 92, 93, 95, 100, 101, 102, 106, 112, 115, 116, 117, 118, 119, 131, 132, and 133.
Portions of Lots 42 and 46.
Lots 64, 67, 72, 113, 114, 120,121, 122, 123, 124, 125, 126, 127

Ford and Robinson's Patent:

Lots 1, 4, 5, 6, 7, 8, 9, and 10.
Portions of Lots 2, and 3.

Tongue Mountain Tract:

Lots A, B, C, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, and 51.

Ellice Patent:

Lots 1, 2, 3, 4, 5, 6, 2B, 3C, 5E, 32, 33, 38, 74, 80, 81, 85, 89, 91, 92, 93, 94, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 145, 146, 150**,** 152, 153, 154, 170, 171, 172, 173, 174, 175, 176, 177, 180, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 262, 263, 264, the 'Gore Lot', 233, 237, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 253, 254, 255,

256, 257, 258, 259, and 260.
Portions of Lot 144.

Hague Tract:

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, and 60.
Portions of Lot 61.

Brant Lake Tract:

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 64, 65, 66, 67, 68, 69, 70, 71, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 113, 114, 115, 128, 129, 130, 131, 132, 133, 134, 160, 161, 162, 163, 164, 165, 168, 169, 183, 194, 195, 196, 227, 228, and 229
Portions of Lots 91, 104, and 112.

Gore Road Tract

Unnamed Lot

South Gore Township:

Lots 6 and 7.
Portions of Lots 5, 8 and 9.

Hyde Township (East of Hudson River):

Portions of Lots 1 and 76.

Township 24:

Portions of Lots 2 and 3.

Warrensburgh Patent:

Lots 1, 2, 3, 4, 5, 7, 10, 14, 15, 16, 19, 21, and 22
Portion of Lot 20

Goldthwaite Tract:

Portions of the southwestern and north-central portions of the parcel.

Jessup's 7550 A. Patent:

Portions of Lots 1, 2, 3, 4, 5, and 12.

Parcel "J":

Portions of eastern half of the parcel.

Jessup's 4100 A. Patent:

Portions of Lot 11.

Caldwell Patent

Lot 2

WASHINGTON COUNTY

Brayton Tract:

Portion of Lot 12

Lake George Tract:

Lots 49, 50, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 85, 86, 87, 88, 89, 90, 91, 92, and 93
Portions of 51, 52, 61, 67, and 62

Westfield Tract:

Lots 36, 39, 45, 46, 74, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, and 59

South Bay Tract:

Lots 2, 50, 58, 80, 81, 82, 83, 90, 91, 92, 93, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, and 157, Stewart.

Alexander Turner

Unnamed lots

McKinley Patent

Unnamed lots

Price Patent

Unnamed lots

C. General Location

The LGWF consists of 71,133 acres of Wild Forest lands in Essex, Warren, and Washington Counties. The majority of Wild Forest lands in the LGWF are located within the towns of Bolton, Hague, and Horicon in Warren County and in Dresden and Fort Ann in Washington County. The unit is generally bounded on the north by the Warren County line, on the west by the Hudson River, and on the east and south by the Adirondack Park boundary. The unit is within the jurisdictional limits of DEC's Region 5. There are many private in-holdings within the unit lying in, and adjacent to the general boundary described above. The majority of the large (> 100 acres) in-holdings are owned and managed by such timber and paper companies as Lyme Timber Company and Finch Pruyn.

The following boat launches and fishing access sites are located within the planning area and administered by the DEC Bureau of Fisheries; the Brant Lake Fishing Access Sites (owned by the town of Horicon), the Horicon Boat Launch (located at the southern end of Schroon Lake), the South Bay Boat Launch (located on the South Bay of Lake Champlain in the Town of Dresden), and the Mossy Point Boat Launch (located on the northeast end of Lake George in the town of Ticonderoga). The Horicon, South Bay and the Mossy Point Boat Launch sites are classified Intensive Use. The Northwest Bay Fishing Access Site, classified Wild Forest, is located on the North West Bay of Lake George in the town of Bolton.

This draft UMP does not include the following Intensive Use Areas: Lake George Battleground Campground, Hearthstone Point Campground, Prospect Mountain, Lake George Islands Campground, Rogers Rock Campground. Also, the Lake George Battlefield, a Day Use Area is not included.

D. General Access

The main travel corridor running north and south through the unit is Interstate 87 the Northway. Other major roads affording access to the unit include US Route 9, NYS Route 8, NYS Route 149, NYS Routes 9N, and 9L. The entire unit lies within one day's drive of over 70 million people in the northeast states and Canada. Nearby population centers include Albany, New York, New York City, and Montreal, Quebec. Using the approximate center of Lake George Village as a reference point, Albany is 60 miles away, New York City is 200 miles away, and Montreal is 160 miles away from the unit.

E. General History

By 1860, prior to the Civil War, New York had become a leading industrial state, yet the high peaks region of the north central Adirondacks was virtually unknown to outsiders. Few Europeans had explored the interior of the state's forested regions well enough to understand

their true nature and the extent of their resources. Even the native American peoples of the region, largely the Abenaki and Mohawk peoples, had been occasional visitors. These people only used the forest interior for hunting, and it's waterways for travel. The rough terrain of the foothills, the high inhospitable slopes of the mountainous interior and the regions temperamental climate discouraged most from intensively exploring the region, let alone settling there.

In an effort to change this and expand knowledge of the region and uncover its suspected natural and mineral resources, both the Colonial government and the State made large grants or patents of its so called 'Wild Forest lands' to promote development. The present day bounds of the LGWF lie within several of these patents, as noted earlier.

Most of these patents were first purchased and marketed for agriculture, mining, and timbering. It was these early industries that established the towns within and adjacent to the unit's boundaries. Most towns serving as economic centers still retain evidence of their founding industry in the form of converted mills, abandoned mines, and the second and third generation forests of the region. A good example would be Lake George Village, formerly the town of Caldwell, which, at its outset was a transportation nexus for those seeking to enter the Adirondacks. Later, it became a tourist destination for the wealthy, and today it is both a vacation gateway and destination for tourists traveling to the Adirondacks from the many nearby population centers.

Closely associated with this region is the early military history of the United States. The clearest reminder of that history being the former British Fort William Henry. This log fortress on the south shore of Lake George was originally constructed in 1756. The fort fell in August of 1757, when the Marquis de Montcalm brought a force of 12,000 French Regulars and Huron allies to attack the Fort. The battle lasted for six days at which time the walls failed under a persistent artillery barrage from batteries situated near what is today Shepard's Park in Lake George Village. Faced with this situation, the British surrendered. The Marquis promised the surrendering British troops and civilians safe passage to Fort Edward. As the British left the fort, they were ambushed by the Huron. The ambush of the surrendering soldiers, and unarmed civilians is well known to the people of the region. The Battle of Fort William Henry was dramatized in the book and movie the 'Last of the Mohicans'.

The end of the wars in the lake valleys paved the way for permanent settlement. The Adirondacks offered raw materials such as lumber, iron, gristmills and forges became common. Lumbering began along the upper Hudson in the early 19th century. Although some small mills were set up near lumber sources, river driving was employed to convey the logs to larger mills. Logs could also be moved across lakes, although they had to be bound and towed. Wind could aid the movement of logs across a lake, but it could also push the logs in the wrong direction. Log driving also irritated shoreline landowners, who objected to this practice, so as a result, some rivers were declared public highways (Donaldson 1921:151-152). To avoid the losses

caused by particularly large spring floods, a system of booms and piers was built by the Hudson River Boom Association, comprised of both millers and log owners. The largest boom system was constructed above Glens Falls, which was the home of many lumber mills. The number of logs that passed the boom was recorded yearly and the number was in the 300,000s in the 1850s and grew to the 500,000s in the 1870s. In 1872, over one million logs passed from the Adirondacks to Glens Falls (Smith 1885:201-203).

Although river driving was the cheapest mode of transportation for timber, the construction of railroads in the Adirondacks began in the 1860s and allowed for the transportation of heavy hardwoods that would not readily float. Many lumbering companies developed their own rail lines. Lake George and Warrensburg were both served by railroads for lumber transportation (Kudish 1996:30-37). Railroads were also necessary for transporting mined materials such as iron, gravel, and sand (Kudish 1996:54,58). Railroad service came to the Village of Caldwell (now Lake George Village) in the spring of 1882. Rail service lagged to this largely tourist destination as the rail companies were more interested in serving the high volume, and profitable, lumber traffic of the region around Lake George.

Another industry that grew during the 19th century and one which ultimately supplanted the extractive industries of the Adirondacks is tourism. The mountains, forests, and lakes drew people who enjoyed the views, hiking, hunting and fishing. Large, scenic hotels were built in the 19th century to accommodate the wealthiest of tourists, while more modest accommodations could be found for those less prosperous. The Fort William Henry Hotel which opened in 1855 was the destination of choice for the wealthy of the day. When the T. Roessle & Sons of Albany purchased the hotel in 1868, the hotel was refinished and enlarged to a point unrivaled to this day. In its day the Fort William Henery featured a 25-foot wide piazza which extended the entire length of the hotel. The roof of the piazza was supported by a colonnade of 30-foot high Corinthian columns. The noted Adirondack photographer Seneca Ray Stoddard made the hotel his summer residence and frequent subject of his photographs. Of the hotel's piazza he said new arrivals were, "walking the gauntlet" while crossing the piazza from carriage to lobby as their wealthy caste mates would assess both their social status and net worth.

Not all accommodations were built for the wealthy. Then as now the wealthy were a small if inordinately influential part of society. For those of lesser means, the Lake George region offered such get-away places as the Sabbath Day Point House. Samuel Adams began operations at this point in a modest manner in the 1760's. By the 1880's Samuel Westurn enlarged his farmhouse at Sabbath Day Point to accommodate as many as 25 guests. Over the years this establishment rose in prestige and price, but in its beginning days it was a popular destination for the working classes of Albany, Troy, Schenectady and Saratoga.

With the decline of extractive industries and the rise of tourism in the Lake George region came an appreciation of the natural beauty and sporting opportunities it held. By the late 1880's the

majority of the region had been extensively timbered. What mature timber remained was situated beyond economical means of extraction. Similarly the iron ore and graphite deposits of the region were not as easily extracted as were the newer mines to the north and west of the region. This decline in mining and timber operations caused the major timber and mining operators to sell large tracts of their lands, and those wishing to own a piece of this newly discovered vacation spot were all too eager to buy.

In reaction to the deforestation and other destruction caused by lumbering, tanning, hunting, and mining in the early and mid-19th century, the New York State Adirondack Forest Preserve was created in 1885 and the Adirondack Park was created in 1892. In 1894, Article XIV was added to the state constitution to prevent lumbering and development in the preserve (VanValkenburgh 3).

SECTION II. INVENTORY, USE AND CAPACITY TO WITHSTAND USE

The APSLMP requires that each unit management plan contain an inventory, at a level of detail appropriate to the area, of the natural, scenic, cultural, fish and wildlife and other appropriate resources of the area and an analysis of the area's ecosystems. This inventory is an important aspect of the planning process as it takes stock of the current conditions and use and helps to predict future conditions and the ability of the unit to withstand use. Using this information the resource can be more effectively managed and protected.

A. Natural Resources

1. Physical

The Lake George Wild Forest (LGWF) is situated between several very separate and distinct ecologic and geologic zones. The LGWF lies within the Eastern Adirondack Foothills ecological province or 'ecozone'. The Eastern Adirondack Foothills ecozone, lies between the Central Adirondack ecozone to the west, and both the Hudson Valley and the Taconic Foothills ecozone to the south and east. Ecozones are provinces within which specific soil and climatic conditions select for certain vegetative communities. Ecozones are largely divided along geologic zones as the elevation and aspect of the earth's crust, as decided by geologic events, will dictate the climatic and soil conditions present. Considering the importance of geology in deciding a region's ecological composition, the first step in understanding a region's natural resources and natural character is to first understand its geology.

a. Geology

The high peaks region to the northwest of the LGWF appears as part of a mountainous dome covering an area approximately 60 miles in diameter. The region, referred to on geologic mapping as the "Central Highlands", is part of the Grenville Province. The Grenville Province is a large area of bedrock extending into Canada. The high peaks are a remnant of a mountain region existing 1,000-1,300 million years ago. The Central Highlands region was once flat land covered by sedimentary rock; the same sedimentary rock that surrounds the region today and is found on the eastern portion of the LGWF.

During more recent geologic time, the Central Highlands region was 'uplifted' which means its elevation was significantly increased by underlying geologic forces. This uplifting process known as the Grenville Orogeny (mountain-building process) created an enormous dome which forced the sedimentary rock upwards atop a mound of much older metamorphic rocks pushing up from below. Over time, the soft sedimentary rock covering this dome was stripped away by erosion, and the older, harder metamorphic rocks were left exposed to create what we know as the Adirondack Mountains of today.

The dome is characterized by three prominent geologic features: (1) long straight valleys running north-northeast, (2) gently curved ridges and valleys, and (3) radial drainage patterns flowing outward from the dome. Elevations in the Adirondack Mountains generally fall rapidly north and east, and decline more gradually south and west. When observed from the air or one of the many peaks surrounding it, the prominent north-northeast orientation of the valley containing Lake George is readily apparent. Also, if one were to look at the Tongue Mt. Range rapid elevation loss would be seen on the eastern side of the range while the more gradual slopes would be seen to the south and the west.

Much of the exposed bedrock of the Central Adirondacks is metanorthosite, a metamorphic rock that has been subject to extremely high temperatures and pressures. Metanorthosite is very hard, extremely dense, and resists weathering and erosion. It was left towering over the countryside as the younger sedimentary rock wore away. Rock color ranges from white to bluish gray. Plagioclase feldspar is its major component. The largest area of such rock is the Marcy massif which underlies most of the high peaks. The massif contains numerous 'dikes' or intrusions of igneous rock that penetrate the anorthosite. Chemically less stable and less resistant to erosion than the base rock, many of these dikes eroded to form stream channels. Where the dike rock in streambeds is fractured and broken, waterfalls and stream rapids occur.

The exposed bedrock of the LGWF is largely composed of Precambrian gneiss. Precambrian gneiss is a metamorphic rock that has been subject to extremely high temperatures and pressures. Granitic gneiss is hard, relatively dense, and resistant to weathering and erosion, but not so much as the metanorthosite of the Central Adirondacks. In the LGWF, it was thrust upward along the western and eastern Lake George fault lines. These blocks of upward thrusted granitic gneisses are called 'horsts'. The horsts of the LGWF, just like those of the Central Adirondacks lost their mantle of sedimentary rock to erosion. At Assembly Point an 'anticline', or upfolded rock layers provide insight into the forces which formed the rocks of the horsts. These highly folded layers of gneiss were once horizontal.

Conversely, the down thrown blocks, or 'grabens' of the LGWF largely maintained their cap of sedimentary rock. Lake George itself is a graben lake, which means that as the horsts were forced upwards to form the Tongue Mt. Range to the west, and the Black Mt. to Buck Mt. range to the east. The graben which fell downwards at this time filled with glacial meltwaters to become Lake George as we know it today. As the surface of the Lake George graben was covered by water, it was not subjected to the forces of erosion experienced by the surrounding horsts. Therefore, the lake bottom and several of its islands still exhibit outcrops of Ordovician limestone, one of the sedimentary rocks originally covering the Adirondack mountains before the advent of the doming process. A good example of these sedimentary rocks may be seen at Lake George Battleground Park. Here, outcrops of Ordovician limestone are seen at the entrance to the bike path. Another site is Long Island in Lake George on which one may also observe the few remaining Ordovician deposits of the graben.

On Buck Mt. the careful observer may notice garnet specimens in the granitic gneiss of this peak. Other good locations for crystal observing include Diamond Island, and Diamond Point. Diamond Island and Diamond Point both earned their names for the quartz crystals found there during the early 1700's. In the early 1820's local entrepreneurs collected and sold these 'diamonds' to tourists. Soon, finding crystals on Diamond Island became a rare occurrence. As a result, many more were found on the shores of neighboring islands and Diamond Point than on Diamond Island.

While not diamonds of any sort, and bearing no real commercial value, the crystals were and are still remarkable for their clarity. In 1819, Benjamin Stilliman, a geologist visiting the LGWF region, said of the crystals, "The crystals of Lake George, are hardly surpassed by any in the world for transparency, and for perfection of form. They are six sided prisms and are frequently terminated at both ends by six-sided pyramids."

The cumulative effects of running water, weathering, mass wasting, glacial erosion and deposition have had dramatic effects on the landscapes of the LGWF. During the Pleistocene Epoch, 1.6 million years ago, huge ice sheets advanced and retreated several times across the Adirondacks. The last major ice sheet, the Wisconsian, reached its maximum advance across the high peaks over 21,000 years ago. It was thick enough to bury the summit of mile high Mt. Marcy, the highest point in New York. Approximately 10,000 years later in retreat, this glacier accomplished spectacular erosion; plucked rock fragments, scraped away soil and loose sediments, wore away bedrock, and gouged river valleys into deep troughs.

At the time of the Wisconsian retreat the northern and southern basins of Lake George were actually the headwaters of two separate rivers. The waters of the northern basin flowed northward and the waters of the southern basin flowed southward. The two river valleys were separated by a narrow band of low lands which were smashed down and largely graded away by the advance and retreat of the Wisconsin glacier. Today the remnants of that narrow band of low land appear as the islands of the Lake George narrows.

Today a visitor to the LGWF can find evidence of the mountain forming process in and around Lake George itself. On Prospect Mountain, one can view Precambrian metamorphic rocks such as metagabbro and granitic gneiss. Large crystals of hornblende and garnet appear in the rock and may be seen by the careful observer. The horizontal joints in the rock show the response of the earth's crust to the recession of the glaciers. So heavy were the ice sheets that covered the Adirondacks the underlying rock was actually forced downward. When the glaciers receded, the earth's crust rebounded leaving the horizontal joints we see today.

Retreating glaciers also deposited accumulations of glacial till, a mixture of clay, silt, sand, and stone, in their wake which dammed stream channels to form numerous lakes, kettle ponds, and wetlands. According to geologic studies of the Lake George basin, it was the deposition of

glacial till adjacent to French Mountain which sealed the southern end of Lake George and allowed the basin to fill. This causes the southern basin of Lake George to be considered a moraine lake. Moraine lakes occurred when glacial debris blocked a river valley forming a natural dam, and altered drainage. Kettle ponds were created by huge melting blocks of ice, covered or partially covered by glacial drift (debris). Jabe Pond is a typical example of a remnant kettle pond.

b. Soils

All soils are formed by the chemical and physical breakdown of parent material. However, in the LGWF, soil composition is vastly different from the bedrock beneath. The soils in the LGWF are mostly derived from glacial deposits that have been moved and deposited as glaciers advanced and retreated. Soil characteristics are quite variable and fluctuate widely from location to location. They are basically grouped into four broad soil types; glacial tills, glacial outwash, organically derived, and hardpan (Jaffe and Jaffe, 1986). No one general characteristic describes them all.

Glacial tills are a mixture of clay, silt, sand, and stone. Their occurrence in the LGWF is widespread. They dominate the lower and upper slopes. The deeper and richer soils occur around the base of the mountains, especially on terraces and those slightly elevated locations that escaped the fluvial phase in late glacial retreat, meaning places a hundred feet or so higher than nearby river systems. Hardwoods today dominate these richer soils with mixed conifer/hardwood stands found at the lower slopes with partially water-washed soils.

Glacial outwash soils are stratified soils deposited as eskers and moraines in areas subject to periods of flash-flooding during the glacial retreat and from which the nutrient-bearing silts and clays have been washed away. Because the soils are so stony and thus droughty, the fast growing and deep-rooted pines dominate here as other tree species common to the Wild Forest demand soils that are deeper, moister, and more nutrient rich.

Organically derived soils are rich in vegetative matter in various states of decay, and occur in two physiographic situations: (a) on the mountain sides, typically above 1,000 feet elevation where the glacial tills washed down slope in early post-glacial time leaving behind areas of exposed bedrock on the summits, and (b) in the low wetlands areas where impeded drainage created saturated soils on top of glacial outwash or bedrock and where upland forest plants could not survive. In both situations sphagnum moss dominates the early stages of plant succession and in the low wetlands may convert ponds into peat bogs and meandering streams into mucky swamps.

Hardpan soils are a hardened soil layer, in the lower A or in the B horizon, caused by the cementation of soil particles with organic matter or with materials such as silica, sesquioxides, or calcium carbonate. The hardness does not change appreciably with the changes in moisture content and pieces of hard layer do not slake in water.

c. Terrain/Topography

The topography ranges from the low-lying river valley of the Hudson River on the western limits of the unit to Black Mountain, a 2,645-foot summit on the units eastern limits and the highest point of the unit. Although there is considerable variation in terrain, the LGWF may be considered predominantly hill country.

The mountains are mainly grouped in the vicinity of Lake George and are the result of fault action along the Lake George graben. The mountainous horsts include the entire Tongue Mt. Range on the western shore of the graben, and the Black to Buck Mt. Range on the east.

d. Water

The Lake George Wild Forest (LGWF) is drained by the Hudson River on the west and by Lake Champlain on the east. All of the unit's waters are located in either the Champlain or Hudson watersheds.

Forty-seven ponds and lakes occur within or border the unit, of which all are located on U.S.G.S. 7.5 minute topographic maps. Waters are dispersed throughout the unit and range in size from about an acre to Lake George with a surface area of 28,200 acres.

Ponded waters in or bordering the unit have a total acreage of 28,764 acres. The area also contains hundreds of miles of small, coldwater streams and beaver flows. Prominent streams include Hague Brook, Northwest Bay Brook and Indian Brook on the west side of the unit. Few large streams occur on the east side of the unit, however of these Shelving Rock Brook is perhaps best known due to the popularity of the hiking trails it crosses and flows near. Similarly, Sucker Brook is well known to fishermen seeking the early spring smelt runs, and the fishing opportunities near its delta in Lake George. Buttermilk Brook which joins with the Hudson River on the unit’s western limits is also a popular destination for fishermen.

The second most prominent body of water in the unit is the Hudson River. The reach of the Hudson River within the unit begins in the town of Chester and proceeds approximately 28 miles southward to a point within the town of Lake Luzerne. The River is extremely popular with white water kayakers in the spring and fall, and with fishermen and canoeists throughout the year.

e. Wetlands

The wetlands of the LGWF possess great ecological, aesthetic, recreational, and educational value. In their capacity to receive, store, and slowly release rainwater and melt water, wetlands protect water resources by stabilizing water flow and minimizing erosion and sedimentation. Many natural and man-made pollutants are removed from water entering wetland areas. Also, because they constitute one of the most productive habitats for fish and wildlife, wetlands afford abundant opportunities for fishing, hunting, trapping, and wildlife observation and photography. The wetlands of the unit serve as important habitats for a number of wildlife species listed as threatened or species of special concern which may be present in the unit, including the osprey, northern harrier, the least bittern, Jefferson salamander, and spotted salamander (species of special concern). For the visitor, expanses of open space wetlands provide a visual contrast to heavily forested settings.

While most of the unit's wetlands occur in low-lying areas, they can also be found on mountain slopes (fens), minor depressions and anywhere that soil is seasonally or perennially saturated with water. Summit wetlands are rare in this unit. Where they occur they are characterized by cool, moist, shallow soil environments over bedrock and in this characteristic they resemble the tundra of northern latitudes. Some of New York's rarest flora are encountered in these elevated wetland communities.

APA GIS data identifies 888 wetlands in the LGWF with a total area of 646.8 ac (261.8 HA). The largest wetlands in the unit are found on the eastern portion of the unit, and are associated with Northwest and Dunham Bays of Lake George, and South Bay of Lake Champlain. These wetlands are highly varied and contain elements of the deep water, emergent, wet meadow, shrub-scrub, and forested swamp wetland varieties. Some of these larger wetlands serve as deer wintering areas. A map of APA regulated wetlands appears in the appendices.

f. Climate

The region's climate, in general terms, is best described as cool and moist. Climatic conditions vary considerably throughout the unit and are influenced by such factors as slope aspect, elevation, distance and direction from large bodies of water, seasonal temperatures, precipitation, prevailing winds, and the location of natural barriers.

Summers tend to be warm with cool nights. Maximum daytime temperatures seldom exceed 90 degrees F. Frost can occur from late August through April (mostly in the higher elevations and lower valleys) and freezing temperatures have been recorded as late as May and early as September, although not recently. Winters are long and can be extremely cold. Temperatures of -40 degrees F are possible, but the average temperature tends to be 20 degrees F as the norm. Colder temperatures are often accompanied by high winds which cause the perceived temperature to be much lower due to wind chill. Wind speeds and ambient temperatures approach arctic conditions on the summits of the unit during winter. Daily temperature variations of 15-20 degrees F are common between peripheral entry points and interior locations. Annual precipitation, in rainfall, averages 35 inches per year; snowfall averages 66 inches per year. Common climatic ranges recorded by the USDA Natural Resource Conservation Service (NRCS) and the National Oceanographic and Atmospheric Agency (NOAA) for the region are presented below:

Average High 56º F

Average Low 35ºF

Average Mean Temp 45ºF

Average Dew Point 14º F

Average Wind speed 14.94 mph

Average Wind Direction WNW

Average Morning Rel Humidity 77.0%

Average Afternoon Rel Humidity 64.0%

Typical Sky Cover Overcast

Average Precipitation 35”

Average Snowfall 66”

Due to the availability of direct sunlight, southern slopes are drier than northern slopes. The latter also tend to retain more moisture. Prevailing winds are generally westerly, but may be modified by topography. Eastern slopes, leeward of prevailing winds, tend to be wetter than western slopes. Extensive damaging winds (hurricane force) are rare, but do occur when coastal storms move inland. The resulting influence of climate on local flora and fauna, in particular, is profound.

The effect of direct sunlight is well demonstrated on the southeast facing slopes of Tongue Mountain and Pole Hill near Lake George. Topography and slope have combined on these two mountains to encourage the growth of vegetative communities more common to the southern portion New York State. These southern communities are able to survive here as the lake has a buffering effect on fall temperatures. The buffering effect, combined with direct sunlight creates a slightly warmer 'microclimate' which in turn extends the growing season sufficiently to select for these communities.

g. Air Resources and Atmospheric Deposition

The effects of various activities on LGWF air quality have not been sufficiently measured nor determined. Air quality and visibility in the unit appears to be good to excellent, rated Class II (moderately well controlled) by federal and state standards. The counties comprising the LGWF have not been designated as non-attainment areas for ozone or other criteria pollutants.

The adverse effect of atmospheric deposition (i.e., acid rain) on the Adirondack environment over the last two decades has been documented by many researchers. While permanent monitoring sites have not been established in the LGWF general observations of the effects of acidic deposition on the regional ecosystem are numerous and well documented.

Air quality in the region is good to excellent, rated Class II (moderately well controlled) by federal and state standards. The region receives weather flowing south from the Arctic Circle that tends to be cleaner than weather emanating from the west and southwest. Summit visibility is often obscured by haze caused by air pollutants when a large number of small diameter particles exist in the air. Air quality may be more affected by particulate matter blown in from outside pollution sources rather than from activities inside the Adirondack Park. The relative assimilation of outside pollutants, commonly referred to as "acid rain," is under investigation and study by staff at the NYS Atmospheric Science Research Station located on Whiteface Mountain and other researchers. Whiteface's preeminent feature as a high standing mountain apart from the other High Peaks, in the face of prevailing winds, and a long-term collection center of weather research data, makes it an outstanding outdoor research laboratory.

Recent results of lake chemistry monitoring by DEC from 1992 through 1999, sulfates declined in 92 percent of a representative sample of lakes, selected by the Adirondack Lakes Survey Corporation (ALSC), but nitrates increased in 48 percent of those lakes. The decrease in sulfates is consistent with decreases in sulfur emissions and deposition, but the increase in nitrates is inconsistent with the stable levels of nitrogen emissions and deposition.

Continued monitoring by collection and analysis of acid deposition will allow the monitoring network to determine if improvements will continue as a result of reductions of SO2- and NO4- legislated in the 1990 Clean Air Act Amendments (CAAA).

Effects of Acidic Deposition on Forest Systems

At present, the mortality and decline of red spruce at high elevations in the Northeast and observed reductions in red spruce growth rates in the southern Appalachians are the only cases of significant forest damage in the United States for which there is strong scientific evidence that acid deposition is a primary cause (National Science and Technology Council Committee on Environment and Natural Resources, 1998). The following findings of the National Acid Precipitation Assessment Program (1998) provide a broad overview of the effects of acidic deposition on the forests of the Adirondacks.

The interaction of acid deposition with natural stress factors has adverse effects on certain forest ecosystems. These effects include:

- Increased mortality of red spruce in the mountains of the Northeast. This mortality is due in part to exposure to acid cloud water, which has reduced the cold tolerance of these red spruce, resulting in frequent winter injury and loss of foliage.
- Reduced growth and/or vitality of red spruce across the high-elevation portion of its range.
- Decreased supplies of certain nutrients in soils to levels at or below those required for healthy growth.

Nitrogen deposition, in addition to sulfur deposition, is now recognized as an important contributor to declining forest ecosystem health both at low and at higher elevations. Adverse effects occur through direct impacts via increased foliar susceptibility to winter damage, foliar leaching, leaching of soil nutrients, elevation of soil aluminum levels, and/or creation of nutrient imbalances. Excessive amounts of nitrogen cause negative impacts on soil chemistry similar to those caused by sulfur deposition in certain sensitive high-elevation ecosystems.

Sensitive Receptors

High-elevation spruce-fir ecosystems in the eastern United States epitomize sensitive soil systems. Base cation stores are generally very low, and soils are near or past their capacity to retain more sulfur or nitrogen. Deposited sulfur and nitrogen, therefore, pass directly into soil

water, which leaches soil aluminum and minimal amounts of calcium, magnesium, and other base cations out of the root zone. The low availability of these base cation nutrients, coupled with the high levels of aluminum that interfere with roots taking up these nutrients can result in plants not having sufficient nutrients to maintain good growth and health.

Sugar maple decline has been studied in the eastern United States since the 1950s. One of the recent studies suggests that the loss of crown vigor and incidence of tree death is related to the low supply of calcium and magnesium to soil and foliage (Driscoll 2002).

Exposure to acidic clouds and acid deposition has reduced the cold tolerance of red spruce in the Northeast, resulting in frequent winter injury. Repeated loss of foliage due to winter injury has caused crown deterioration and contributed to high levels of red spruce mortality in the Adirondack Mountains of New York, the Green Mountains of Vermont, and the White Mountains of New Hampshire.

Acid deposition has contributed to a regional decline in the availability of soil calcium and other base cations in high-elevation and mid-elevation spruce-fir forests of New York and New England and the southern Appalachians. The high-elevation spruce-fir forests of the Adirondacks and Northern New England are identified together as one of the four areas nationwide with a sensitive ecosystem and subject to high deposition rates.

Effects of Acidic Deposition on Hydrologic Systems

New York's Adirondack Park is one of the most sensitive areas in the United States affected by acidic deposition. The Park consists of over six million acres of forest, lakes, streams and mountains interspersed with dozens of small communities, and a large seasonal population fluctuation. However, due to its geography and geology, it is one of the most sensitive regions in the United States to acidic deposition and has been impacted to such an extent that significant native fish populations have been lost and signature high elevation forests have been damaged.

There are two types of acidification which affect lakes and streams. One is a year-round condition when a lake is acidic all year long, referred to as chronically or critically acidic. The other is seasonal or episodic acidification associated with spring melt and/or rain storm events. A lake is considered insensitive when it is not acidified during any time of the year. Lakes with acid-neutralizing capability (ANC) values below 0 μeq/L are considered to be chronically acidic. Lakes with ANC values between 0 and 50 μeq/L are considered susceptible to episodic acidification; ANC may decrease below 0 μeq/L during high-flow conditions in these lakes. Lakes with ANC values greater than 50 μeq/L are considered relatively insensitive to inputs of acidic deposition (Driscoll et al. 2001). Watersheds which experience episodic acidification are

very common in the Adirondack Region. A 1995 EPA Report to Congress estimated that 70% of the target population lakes are at risk of episodic acidification at least once during the year.

Recent results of lake chemistry monitored by NYS DEC

From 1992 through 1999, sulfates declined in a majority of selected lakes by the Adirondack Lake Survey Corporation, but nitrate patterns were less clear with a few lakes improving and most lakes not changing. The decrease in sulfates is consistent with decreases in sulfur emissions and deposition, but the nitrate pattern is not explained by the unchanged levels of nitrogen emissions and depositions of recent decades.

In addition to sensitive lakes, the Adirondack region includes thousands of miles of streams and rivers which are also sensitive to acidic deposition. While it is difficult to quantify the impact, it is certain is that there are large numbers of Adirondack brooks that will not support native Adirondack brook trout. Over half of these Adirondack streams and rivers may be acidic during spring snowmelt, when high aluminum concentrations and toxic water conditions adversely impact aquatic life. Acid ion depositions, "acid rain," has apparently had little impact on the fisheries resources in the LGWF.

Permanent Long-Term Monitoring (LTM) sites in and around this unit.

As part of an Adirondack Park extensive survey in 1986, the ALSC surveyed a total of 47 waters in this unit (See Appendix Four for ALSC ponds). Summaries of those ponded waters data can be found at (http://www.adirondacklakessurvey.org), see ALS Pond Information. Since 1992, the Adirondack Long-Term Monitoring (LTM) program managed by the ALSC has been sampling chemistry in 52 lakes across the Park on a monthly basis

2. Biological

a. Vegetation Inventory

The LGWF occupies two ecozones. The northern section of the unit occupies the Lake Champlain Valley, while the remainder of the unit lies within the Eastern Adirondack Foothills (Reschke, 1990). Its forests include a variety of vegetation associations that correspond to local variations in soil, temperature, moisture and topography. Past events such as fire, wind, land clearing, and logging have also exerted a strong influence on present-day conditions.

The original forests of the LGWF are believed to have been a mixture of mature, old-growth northern hardwoods, spruce-fir, and eastern white pine forest types. Also there was a preponderance of American chestnut. Dense shade, many cavity trees, significant ground debris, and few natural openings characterized these forests. Insect outbreaks, disease, wind and wildfire were vital parts of the natural environment and the major agents of change. Few LGWF forests have fully matured from the pioneer stage to the theoretical climax forest stage.

Tree diseases, extensive logging prior to Forest Preserve acquisition, a severe wildfire in 1916, and the “great blow down of 1950” have altered the composition of this forest dramatically. In most cases, the softwood component has been eliminated or significantly reduced and replaced by northern hardwoods. Historically and ecologically, these factors have resulted in a great diversity of ecological communities, which support a variety of animal and plant species.

The American chestnut was an integral component of the Lake George Wild Forest of years past. The American chestnut was one of the most important trees of forests from Maine south to Florida, from the Piedmont west to the Ohio valley. In the heart of its range only a few generations ago, a count of trees would have turned up one chestnut for every four oaks, birches, maples and other hardwoods. Many of the dry ridgetops of the central Appalachians were so thoroughly crowded with chestnut that, in early summer, when their canopies were filled with creamy-white flowers, the mountains appeared snow-capped.

The trees could be giants. In virgin forests throughout their range, mature chestnuts averaged up to five feet in diameter and up to one hundred feet tall. Many specimens of eight to ten feet in diameter were recorded, and there were rumors of trees bigger still.

Native wildlife from birds to bears, squirrels to deer, depended on the tree's abundant crops of nutritious nuts. And chestnut was a central part of eastern rural economies. As winter came on, attics were often stacked to the rafters with flour bags full of the glossy, dark brown nuts. Springhouses and smokehouses were hung with hams and other products from livestock that had fattened on the harvest gleanings. And what wasn't consumed was sold.

Chestnut was an important cash crop. As year-end holidays approached, nuts by the railroad car-full were shipped to New York, Philadelphia and other cities where street vendors sold them fresh roasted.

The tree was one of the best for timber. It grew straight and often branch-free for 50 feet. Loggers tell of loading entire railroad cars with boards cut from just one tree. Straight-grained, lighter in weight than oak and more easily worked, chestnut was as rot resistant as redwood. It was used for virtually everything - telegraph poles, railroad ties, shingles, paneling, fine furniture, musical instruments, even pulp and plywood.

Then the chestnut blight struck. First discovered in 1904 in New York City, the blight - an Asian fungus to which our native chestnuts had very little resistance - spread quickly. In its wake it left only dead and dying stems. By 1950, except for the shrubby root sprouts the species continually produces (and which also quickly become infected), the keystone species on some nine million acres of eastern forests had disappeared. (The American Chestnut Foundation website - the American Chestnut Foundation is a not-for-profit organization whose goal is to restore the American chestnut tree to its native forests through a scientific research and breeding program). Perhaps one day the chestnut tree will again be plentiful in the Lake George Wild Forest.

LGWF vegetation can be categorized into ecological communities based upon topographical position within the landscape and dominant vegetation species composition. Each ecological community is characterized by distinct plant communities, associations of plant species that scientists recognize as belonging together under certain circumstances and site requirements.

- **Hemlock-Northern Hardwood Forest**

A mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps. In any one stand, hemlock (*Tsuga canadensis*) is co-dominant with any one to three of the following: American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), black cherry (*Prunus serotina*), white pine (*Pinus strobus*), yellow birch (*Betula alleghaniensis*), black birch (*Betula lenta*), red oak (*Quercus rubra*), and basswood (*Tilia americana*).

Hemlock-northern hardwood forest is the most widespread ecological community in the LGWF. It is found on the better-drained, more fertile uplands. Deep glacial soils with elevation up to 2,500 feet, favor a forest association of sugar maple, American beech and yellow birch. Black cherry and white ash (*Fraxinus americana*) are minor associates. Example locations: Luzerne Mountain and portions of Tongue Mountain.

- **Maple-Basswood Rich Mesic Forest**

A species rich hardwood forest that typically occurs on well-drained, moist soils of neutral pH. Rich herbs are predominant in the ground layer and are usually correlated with calcareous bedrock, although bedrock does not have to be exposed. Where bedrock outcrops are lacking, surface features such as seeps are often present. The dominant trees are sugar maple, basswood, and white ash. Associate tree species can include ironwood (*Ostrya virginiana*), yellow birch, red oak, American beech, bitternut hickory (*Carya cordiformis*), shagbark hickory (*Carya ovata*), tulip tree (*Liriodendron tulipifera*), butternut (*Juglans cinerea*), and American hornbeam (*Carpinus caroliniana*).

The maple-basswood rich mesic forest occupies a significant area of remote forest west of Lake George. It includes small patches of beech-maple mesic forest and successional northern hardwood forest. Example locations: Round Pond and Long Pond areas.

- **Appalachian Oak-Hickory Forest**

A hardwood forest that occurs on well-drained sites, usually on ridge tops, upper slopes, or south- and west-facing slopes. The soils are usually loams or sandy loams. This is a broadly defined forest community with several regional and edaphic variants. The dominant trees include one or more of the following oaks: red oak, white oak (*Quercus alba*), and black oak (*Quercus velutina*). Mixed with the oaks, usually at lower densities, are one or more of the following hickories: pignut (*Carya glabra*), sweet pignut (*Carya ovalis*), and shagbark (*Carya ovata*).

Oak-hickory dominated forest occurs on well-drained, shallow soils with a neutral pH. These conditions are found primarily on southeast facing, somewhat steep, rocky, upper and mid-slopes of the long mountain ridge bordering Lake George. Example locations: Mount Defiance, The Diameter, and portions of Tongue Mountain.

- **Appalachian Oak-Pine Forest**

A well-drained, mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils. A mixture of oaks and pines dominates the canopy. The oaks include one or more of the following: black oak, chestnut oak (*Quercus montana*), red oak, white oak, and scarlet oak (*Quercus coccinea*). The pines are either white pine or pitch pine (*Pinus rigida*); in some stands both pines are present. Red maple, hemlock, American beech, and black cherry are common associates occurring at low densities.

The moderating influence of Lake George on both sides of the Tongue Mountain peninsula has produced an oak-pine cover type, which is more characteristic of the southern part of the state than of the Adirondacks. Oak-pine dominated forests typically occur on the upper, steep southeast-facing slopes of the long mountain ranges bordering Lake George. Example location: south-facing portions of Tongue Mountain.

- **Black Spruce-Tamarack Bog**

A conifer forest that occurs on acidic peatlands in cool, poorly drained depressions. The characteristic trees are black spruce (*Picea mariana*) and tamarack (*Larix laricina*). In any one stand, either tree may be dominant, or they may occur as co-dominants. Canopy cover is quite variable, ranging from open canopy woodlands with as little as 20% cover of evenly spaced trees, to closed canopy forests with 80 to 90% cover. Example locations: Cotton Point Swamp, Bolton Swamp, Millington Brook Bog, and Brayton Marsh.

- **Pine-Northern Hardwood Forest**

A mixed forest that occurs on gravelly outwash plains, delta sands, eskers, and dry lake sands in the Adirondacks. Dominant trees are white pine and red pine (*Pinus resinosa*), which are mixed with scattered paper birch (*Betula papyrifera*) and quaking aspen (*Populus tremuloides*). In some stands there is a mixture of other northern hardwoods and conifers such as yellow birch, red maple, balsam fir (*Abies balsamea)*, and red spruce (*Picea rubens*). Example locations: Buck Mountain and Pine Hill.

Exemplary Vegetative Communities

The LGWF includes many exemplary vegetative communities that serve as outstanding examples of the biological diversity of the Adirondack Park (New York State Natural Heritage Program, 2002). These exemplary communities, a brief description of their make up, and example locations are discussed below (Reschke, 1990 and Edinger et al., 2002).

- **Red Cedar Rocky Summit**

Example Locations: Anthony's Nose-Putnam and Tongue Mountain.

Towns: Putnam and Hague; **County:** Washington

Description: A community that occurs on warm, dry, rocky ridgetops and summits where the bedrock is calcareous (such as limestone or dolomite, but also marble, amphibolite, and

calcsilicate rock), and the soils are more or less calcareous. The vegetation may be sparse or patchy, with numerous lichen covered rock outcrops. This community is often surrounded by Appalachian oak-hickory forest. Characteristic trees include eastern red cedar (*Juniperus virginiana*), red oak, shagbark hickory, white ash, eastern hop hornbeam, and serviceberry (*Amelanchier* spp.). The red cedar rocky summit occurs in patches on a moderately steep southwest-facing slope overlooking Lake George (site is just east of Lake George).

- **Calcareous Cliff Community**

Example Locations: Rogers Rock and Slide, Lower Road Cliffs-Putnam, The Narrows, Deer Leap, and The Diameter

Towns: Bolton, Hague, Ticonderoga, Putnam, Dresden, and Fort Ann; **Counties:** Warren, Washington and Essex

Description: A community that occurs on vertical exposures of resistant, calcareous bedrock (such as limestone or dolomite) or consolidated material; these cliffs often include ledges and small areas of talus. There is minimal soil development, and vegetation is sparse.

- **Riverside Ice Meadows**

Example Locations: South of the Glen (Hudson River), Hudson River Canoe Access site

Town: Warrensburg; County: Warren

Description: A meadow community that occurs on gently sloping cobble shores and rock outcrops along large rivers in areas where winter ice flows are pushed up onto the shore, forming an ice pack that remains until late spring. The ice scours the meadow, cutting back woody plants. The late-melting ice pack, which can be up to 8 ft (2.4 m) deep in late April or early May, creates a cool microclimate in late spring, and shortens the growing season. The ice pack deposits organic matter that has accumulated in the ice during the winter, apparently enriching the sandy soils of the cobble and rocky shores. Within this community there is a gradient of two to three vegetation zones that vary with elevation above the river and soil moisture.

- **Cobble Shore**

Example Locations: South of the Glen (Hudson River), Hudson River Canoe Access site

Town: Warrensburg; **County:** Warren

Description: A community that occurs on the well-drained cobble shores of lakes and streams. These shores are usually associated with high-energy waters (such as high-gradient streams), and

they are likely to be scoured by floods or winter ice flows. This community includes both active and stable shores. Active cobble shores have loose cobbles that are moved by waves or river currents; these shores are sparsely vegetated, and they have comparatively few species. The cobble shore community consists of vegetated bedrock outcrops along the eastern shore of the Hudson River. The Hudson River in this area is a very large mid-reach stream in a narrow to moderate sized river valley.

- **Spruce-Fir Rocky Summit**

Example Locations: Buck Mountain, Long Pond Woods – Horicon, Black Mountain

Towns: Horicon, and Fort Ann; **Counties:** Warren and Washington

Description: A community that occurs on cool, dry, rocky ridgetops and summits where the bedrock is non-calcareous (such as anorthosite, quartzite, or sandstone), and the soils are more or less acidic. The vegetation may be sparse or patchy, with numerous rock outcrops and rock slides. Vegetation species are scattered and have predominantly boreal distributions consisting of low shrubs on large rock outcrops overlooking Lake George.

- **Red Maple-Tamarack Peat Swamp**

Example Location: Brayton Marsh

Town: Queensbury; **County:** Warren

Description: A mixed swamp that occurs on organic soils (peat or muck) in poorly drained depressions. These swamps are often spring fed or enriched by seepage of minerotrophic groundwater resulting in a stable water table and continually saturated soil. Soils are often rich in calcium. The dominant trees are red maple and tamarack. These species usually form an open canopy (50 to 70% cover) with numerous small openings dominated by shrubs or sedges.

The red maple-tamarack peat swamp in the Lake George Wild Forest is part of a large wetland complex named Brayton Marsh. This complex includes the red maple-tamarack peat swamp, highbush blueberry bog thicket, dwarf shrub bog, black spruce-tamarack bog, medium fen and other wetland types.

- **Shrub Swamp**

Example Location: South Bay Creek Wetlands, Harris Bay Marsh

Town: Fort Ann; Queensbury **County:** Washington; Warren

Description: An inland wetland dominated by tall shrubs that occurs along the shore of a lake

or river, in a wet depression or valley not associated with lakes, or as a transition zone between a marsh, fen, or bog and a swamp or upland community. The substrate is usually mineral soil or muck. This is a very broadly defined type that includes several distinct communities and many intermediates. Shrub swamps are very common and quite variable. They may be co-dominated by a mixture of species, or have a single dominant shrub species.

The South Bay Creek Wetlands are a narrow strip of bog forest surrounding an open mat of poor fen, with Millington Brook flowing north through center of the fen.

- **Floodplain Forest**

Example Location: South Bay Creek Wetlands

Town: Fort Ann; **County:** Washington

Description: A hardwood forest that occurs on mineral soils on low terraces of river floodplains and river deltas. These sites are characterized by their flood regime; low areas are annually flooded in spring, and high areas are flooded irregularly. Some sites may be quite dry by late summer, whereas other sites may be flooded again in late summer or early autumn (these floods are caused by heavy precipitation associated with tropical storms). This is a broadly defined community; floodplain forests are quite variable and may be very diverse.

The South Bay Creek Wetlands are a park-like floodplain forest at the south end of the Lake Champlain Valley, and are associated with shrub swamp and shallow and deep emergent marshes in a large wetland complex.

- **Limestone Woodland**

Example Location: Near Fort Ticonderoga

Town: Ticonderoga; **County**: Essex

Description: A woodland that occurs on shallow soils over limestone bedrock and usually includes numerous rock outcrops. The tree canopy may be open or closed. There are usually several co-dominant trees, although one species may become dominant in any one stand. Characteristic canopy trees in some stands are primarily conifers such as northern white cedar (*Thuja occidentalis*), white pine, white spruce (*Picea glauca*), and balsam fir.

Limestone woodland occurs as strips of young thick woods on a southeast-facing peninsula on the west shore of Lake Champlain near Fort Ticonderoga.

- **Calcareous Talus Slope Woodland**

Example Locations: Bloomer Mountain, Deer Leap, and The Diameter

Towns: Hague, Dresden, and Fort Ann; **Counties:** Warren and Washington

Description: An open or closed canopy community that occurs on talus slopes composed of calcareous bedrock such as limestone or dolomite. The soils are usually moist and loamy and there may be numerous rock outcrops. Characteristic trees include sugar maple, white ash, eastern hop hornbeam, eastern red cedar, northern white cedar, basswood, slippery elm (*Ulmus rubra*) and butternut.

- **Northern White Cedar Swamp**

Example Locations: Brant Lake Bog, Island Pond Wetlands, Sucker Brook Wetlands, and Dunham Bay Marsh near Route 149

Towns: Queensbury, Horicon, and Putnam; **Counties**: Warren and Washington

Description: A conifer or mixed swamp that occurs on organic soils in cool, poorly drained depressions in central and northern New York, and along lakes and streams in the northern half of the state. These swamps are often spring fed or enriched by seepage of cold, minerotrophic groundwater, resulting in a stable water table and continually saturated soils. Soils are often rich in calcium. At some sites these soils have developed above a marl substrate. The characteristic tree is northern white cedar, which makes up more than 30% of the canopy cover. White cedar may form nearly pure stands, or it may be mixed with other conifers and hardwoods, including red maple, hemlock, balsam fir, tamarack, yellow birch, black ash (*Fraxinus nigra*), white pine, and black spruce (*Picea mariana*).

- **Highbush Blueberry Bog Thicket**

Example Location: Brayton Marsh

Town: Queensbury; **County**: Warren

Description: An ombrotrophic or weakly minerotrophic peatland dominated by tall, deciduous, ericaceous shrubs and peat mosses (*Sphagnum spp*.); the water is usually nutrient-poor and acidic. The dominant shrub is usually highbush blueberry (*Vaccinium corymbosum*). Characteristic species include mountain holly (*Nemopanthus mucronatus*), which may be co-dominant, three-seed sedge (*Carex trisperma*), and calla (*Calla palustris*). Scattered small trees

include tamarack, black spruce, and white pine. These forests and swamps typically have at least 50% canopy cover of trees and consists of permanently flooded or saturated lands.

A very dense highbush blueberry bog thicket on deep peat is located in Brayton Marsh, a large peatland complex within the Lake George watershed.

- **Deep Emergent Marsh**

Example Locations: Chubbs Dock, Lachute River Delta, and the South Basin of Lake Champlain

Towns: Dresden, Putnam, Whitehall, and Ticonderoga; **Counties**: Washington and Essex

Description: A marsh community that occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat); the substrate is flooded by waters that are not subject to violent wave action. Water depths can range from 6 inches to 6 ½ feet (15 cm to 2 m). Water levels may fluctuate seasonally, but the substrate is rarely dry, and there is usually standing water in the fall. The most abundant emergent aquatic plants are cattails (*Typha spp*), wild rice (*Zizania aquatica*), bur-weeds (*Sparganium spp.*), pickerel weed (*Pontederia cordata*), bulrushes (*Scirpus spp.*), arrowhead (*Sagittaria latifolia*), arrowleaf (*Peltandra virginica*), rice cutgrass (*Leersia oryzoides*), bayonet rush (*Juncus militaris*), water horsetail (*Equisetum fluviatile*) and bluejoint grass (*Calamagrostis canadensis*).

- **Pitch Pine-Oak-Heath Rocky Summit**

Example Locations: Prospect Mountain and Anthony's Nose-Putnam

Towns: Lake George and Putnam; **Counties**: Warren and Washington

Description: A community that occurs on warm, dry, rocky ridgetops and summits where the bedrock is non-calcareous (such as quartzite, sandstone, or schist), and the soils are more or less acidic. The vegetation may be sparse or patchy, with numerous rock outcrops. This community is broadly defined and includes examples that may lack pines and are dominated by scrub oak and/or heath shrubs apparently related to fire regime.

Pitch Pine-Oak-Heath Rocky Summits are an aggregation of oak-pine dominated rocky openings found on the southeast-facing mid-slopes of low mountains bordering Lake George. The Pitch Pine-Oak-Heath Rocky Summit community is located on southeast facing sections of Prospect Mountain, which is on the west shore of Lake George. Anthony's Nose consists of steep-sided hills on the east shore of Lake George with extensive cliffs and talus.

- **Pitch Pine-Scrub Oak Barrens**

Example Location: Glens Falls Sandplain

Town: Queensbury; **County**: Warren

Description: A shrub-savanna community that occurs on well-drained, sandy soils that have developed on sand dunes, glacial till, and outwash plains. Pitch pine (*Pinus rigida*) is the dominant tree and may have lower branches that grow out horizontally like aprons. The percent cover of pitch pine is variable, ranging from 20 to 60%. The shrub layer dominants are scrub oaks (*Quercus ilicifolia* and *Q. prinoides*), which often form dense thickets. Beneath this tall shrub canopy is a low shrub layer primarily composed of sweet-fern. (*Comptonia peregrina*), blueberries (*Vaccinium angustifolium* and *V. pallidum*), and black huckleberry (*Gaylussacia baccata*). These scrub oak thickets cover 60 to 80 percent of the community; pitch pines are scattered through the shrub thicket, occurring as emergent trees within an extensive shrub land.

A heavily fragmented pitch pine-scrub oak barren community is located on a large sandplain at the north end of the Hudson River Valley. The community occurs as part of a mosaic within a pine barrens complex with two other communities representing advanced ecological succession.

- **Inland Poor Fen**

Example Locations: Harris Bay Marsh and Millington Bog

Towns: Queensbury and Warrensburg; **County**: Warren

Description: A weakly minerotrophic peatland that occurs inland from the Atlantic coastal plain. The substrate is peat, composed primarily of *Sphagnum spp.*, with mixtures of graminoid or woody peat. The dominant species are *Sphagnum* mosses, with scattered sedges, shrubs, and stunted trees. Poor fens are fed by waters that are weakly mineralized, and have low pH values, generally between 3.5 and 5.0.

Harris Bay Marsh is a large undisturbed peatland at the south end of Lake George, grading into shrub fen and tamarack swamp. Millington Bog is an open boggy mat of poor fen surrounded by narrow strips of black spruce-tamarack bog on the east and west.

- **Silver Maple-Ash Swamp**

Example Locations: Near Fort Ticonderoga and Chubbs Dock

Towns: Ticonderoga and Dresden; **Counties**: Essex and Washington

Description: A hardwood basin swamp that typically occurs in poorly-drained depressions or

along the borders of large lakes, and less frequently in poorly drained soils along rivers. These sites are characterized by uniformly wet conditions with minimal seasonal fluctuations in water levels. The dominant trees are usually silver maple (*Acer saccharinum*) and green ash (*Fraxinus pennsylvanica*). American elm (*Ulmus americana*) is often present and probably was a co-dominant prior to the onset of Dutch elm disease and elm yellows. Other trees include black ash, white ash, swamp white oak (*Quercus bicolor*), red maple, and occasionally the silver maple-red maple hybrid "Freeman's maple" (*Acer x freemanii*). Many of the canopy trees occur in the sub-canopy, along with ironwood.

Older swampy woods on the west shore of Lake Champlain near Fort Ticonderoga, and at Chubbs Dock, a narrow strip of Silver Maple-Ash swamp occurring along the west shore of Lake Champlain.

- **Dwarf Shrub Bog**

Example Location: Brayton Marsh

Town: Queensbury; **County**: Warren

Description: An ombrotrophic or weakly minerotrophic peatland dominated by low-growing, evergreen, ericaceous shrubs and peat mosses (*Sphagnum spp*.). The surface of the peatland is typically a mosaic of hummock/hollow micro-topography. The hummocks tend to have a higher abundance of shrubs than the hollows; however, these bogs have more than 50% cover of low-growing shrubs. Water is usually nutrient-poor and acidic.

A dwarf shrub bog is part of the larger Brayton Marsh wetland complex. As well as the dwarf shrub bog, Brayton Marsh includes red maple-tamarack peat swamp, highbush blueberry bog thicket, black spruce-tamarack bog, medium fen and other wetland types.

- **Beech-Maple Mesic Forest**

Example Locations: Anthony's Nose-Putnam and Beech Mountain
Towns: Putnam, Bolton and Hague; **Counties:** Washington and Warren
Description: A hardwood forest with sugar maple and American beech co-dominating. This is a broadly defined community type with several regional variants. These forests occur on moist, well-drained, usually acidic soils. Common associates are yellow birch, white ash, eastern hop hornbeam and red maple. There are relatively few shrubs and herbs.

- **Acidic Talus Slope Woodland**

Example Location: Steep rocky cliffs of Catamount Mountain.
Town: Hague; **County**: Warren
Description: An open to closed canopy woodland that occurs on talus slopes composed of non-calcareous bedrock such as granite, quartzite, or schist. Characteristic trees include chestnut oak, red oak, white oak, white pine, red pine, paper birch, black birch, and mountain paper birch (*Betula cordifolia*); striped maple (*Acer pensylvanicum*) and mountain maple (*A. spicatum*) are common sub-canopy trees.

- **Rich Shrub Fen**

Example Location: Dunham Bay Marsh
Town: Queensbury; **County**: Warren
Description: A strongly minerotrophic peatland in which the substrate is a woody peat, which may or may not be underlain by marl or limestone bedrock. Rich fens are fed by waters that have high concentrations of minerals and high pH values, generally from 6.0 to 7.8. The dominant species in rich shrub fens are shrubs, which form a canopy and overtop most herbs. Some rich shrub fens are dominated by low shrubs (under 4 ft or 1.2 m) that collectively have 80 to 90% cover in the community.

A streamside tall shrub fen is located in the large Dunham Bay Marsh peatland complex, bordering Lake George. The rich shrub fen grades into a medium fen towards the wide marsh headwater stream.

- **Medium Fen**

Example Location: Dunham Bay Marsh
Town: Queensbury; **County**: Warren
Description: A moderately minerotrophic peatland (intermediate between rich fens and poor fens) in which the substrate is a mixed peat composed of graminoids, mosses, and woody species. Medium fens are fed by waters that are moderately mineralized, with pH values generally ranging from 4.5 to 6.5. Medium fens often occur as a narrow transition zone between an aquatic community and either a swamp or an upland community along the edges of streams and lakes.

Dunham Bay Marsh is a quaking to hummocky, moderately rich streamside fen in a large peatland bordering Lake George. The fen borders a wide marsh headwater stream with pockets of deep emergent marsh. The fen grades into a rich peaty tall shrubland (rich shrub fen).

- **Rich Hemlock-Hardwood Peat Swamp**

Example Location: Brayton Marsh
Town: Queensbury; **County**: Warren
Description: A mixed swamp that occurs in depressions or concave slopes which receive groundwater discharge, typically in areas where the groundwater flows through calcareous gravels of glacial deposits. These swamps usually have a fairly open canopy (50 to 70% cover), scattered shrubs, and a diverse groundlayer with sedges, mosses, and forbs. The characteristic canopy trees are hemlock, which usually has at least 20% cover, red maple, yellow birch, black ash, tamarack, white pine, smooth serviceberry (*Amelanchier arborea* var. *laevis*), balsam fir, and northern white cedar.

Brayton Marsh is a hummocky, moderately-rich, semi-broadleaf swamp in a large calcareous peatland bordering Lake George.

- **Chestnut Oak Forest**

Example Location: Pole Hill
Town: Bolton; **County**: Warren
Description: A hardwood forest that occurs on well-drained sites in glaciated portions of the Appalachians, and on the coastal plain. This forest is similar to the Allegheny oak forest, but it is distinguished by fewer canopy dominants and a less diverse shrublayer and groundlayer flora.

Dominant trees are typically chestnut oak and red oak. Common associates are white oak, black oak, and red maple. American chestnut (*Castanea dentata*) was a common associate in these forests prior to the chestnut blight.

Pole Hill is a chestnut oak-dominated forest, located on the rocky south-facing slopes of clustered hills and knobs, bordering a large bay on Lake George. There are several scattered patches of chestnut oak-dominated forest along State Route 9N, roughly between the southwest base of Pole Hill, State Mountain (about 1.5 miles northeast of Pole Hill Pond), Walker Point and The Hill about 0.3 miles northwest of Bell Point.

- **Shoreline Outcrop Community**

Example Location: South of Glen, Anthony's Nose Putnam
Town: Warrensburg and Thurman; **County**: Warren, Washington
Description: A community that occurs along the shores of lakes and streams on outcrops of non-calcareous rocks such as anorthosite, granite, quartzite, sandstone, gneisst or schist. The shoreline is exposed to wave action and ice scour. The vegetation is sparse; most plants are rooted in rock crevices. Characteristic species include blueberries, black huckleberry, poverty-

grass (*Danthonia spicata*), and common hairgrass (*Deschampsia flexuosa*). Crustose and foliose lichens may be common on the rocks.

Threatened, Rare and Endangered Plants

The New York Natural Heritage Program (NYNHP) has identified the existence of thirty-five species known to be present in one or more locations within the LGWF. See Appendix Three for listing of plants.

b. Wildlife Inventory

Wildlife communities in the unit reflect those species commonly associated with northern hardwood and mixed hardwood/softwood forests that are transitional to the boreal forests of higher latitudes. Additionally, the unit is influenced by its proximity to the Lake Champlain and Hudson River valleys, which results in a diverse array of ecological communities, habitats, and species. Terrestrial fauna are represented by a variety of bird, mammal, and invertebrate species. Amphibians and reptiles also occur on the unit, although species diversity is relatively low as compared with other vertebrates. However, herpetofauna diversity in this area appears slightly higher than in the interior portions of the Adirondacks, and the presence of timber rattlesnakes on the unit is of state and regional significance. The distribution and abundance of wildlife species on the unit is determined by physical (e.g., elevation, topography, climate), biological (e.g., forest composition, structure, and disturbance regimes, available habitat, population dynamics, species' habitat requirements), and social factors (e.g., land use). It is important to note that wildlife populations occurring on the unit do not exist in isolation from other forest preserve units or private lands. The physical, biological, and social factors that exist on these other lands can and do influence the abundance and distribution of wildlife species on the LGWF.

With the exception of NYNHP surveys, comprehensive field inventories of wildlife species have not focused specifically on the LGWF, or Forest Preserve units in general. Statewide wildlife survey efforts conducted by the NYSDEC have included two Breeding Bird Atlas projects (1980-1985 and 2000-2005) and the New York State Amphibian and Reptile Atlas Project (1990-1999). Additionally, the Bureau of Wildlife collects harvest data on a number of game species (those that are hunted or trapped). Harvest data is not collected specific to Forest Preserve units, but rather on a town, county, and wildlife management unit (WMU) basis. Harvest data can provide some indication of wildlife distribution and abundance and is sometimes the only source of data on mammals.

The unit is largely covered by mature forests with limited areas of early successional habitat. The character of the unit's vegetation has a significant effect in determining the occurrence and abundance of wildlife species. While some species prefer mature forests, many others occur in lower densities on Forest Preserve lands than they do on private lands characterized by a greater variety of habitat types. Natural forest disturbances including wind storms, ice storms, tree disease and insect outbreaks, fire, and beaver activity influence forest structure and wildlife habitats by creating patches of earlier successional stages within a larger matrix of mature forest. These natural disturbances create important habitat for a variety of species that depend on early succession vegetation communities and the edges created between these communities and the surrounding forest. However, these areas are usually limited in size. Private lands adjacent to public lands may provide some habitat for species that prefer early successional habitats, depending on land use and the silvicultural practices conducted.

1. Amphibians and Reptiles

The New York State Amphibian and Reptile Atlas Project (1990-1999) confirmed the presence of 34 species of reptiles and amphibians in USGS Quadrangles within, or partially within LGWF. It is important to note that quadrangles (the survey sample unit) overlap and extend beyond the land boundary of the unit. Therefore, recorded species do not necessarily reflect what was found on the unit, but on the quadrangles. Some species may have been found on private lands adjacent to the state lands. However, these data should provide a good indication of the species found throughout the LGWF. These included 9 species of salamanders, 9 species of frogs and toads, 5 species of turtles, 1 species of lizard, and 10 species of snakes (Table 1). These species are classified as protected wildlife and some may be harvested during open hunting seasons. Of the 34 confirmed species, 2 were classified as special concern (Jefferson salamander and wood turtle) and 1 was classified as threatened (timber rattlesnake). Of the listed species, 7 occurrences of wood turtle, 2 occurrences of Jefferson salamander, and 8 occurrences of timber rattlesnake were documented within quadrangles within, or partially within LGWF.

Table 1. Amphibian and reptile species recorded in USGS Quadrangles within, or partially within, the Lake George Wild Forest (LGWF) during the New York State Amphibian and Reptile Atlas Project, 1990-1999.

Common Name	Scientific Name
Jefferson Salamander[1]	*Ambystoma jeffersonianum*
Spotted Salamander	*Ambystoma maculatum*
Red-spotted Newt	*Notophthalmus v. viridescens*
Northern Dusky Salamander	*Desmognathus fuscus*
Allegheny Dusky Salamander	*Desmognathus ochrophaeus*
Northern Redback Salamander	*Plethodon cinereus*
Four-toed Salamander	*Hemidactylium scutatum*
Northern Spring Salamander	*Gyrinophilus p. porphyriticus*
Northern Two-lined Salamander	*Eurycea bislineata*
Eastern American Toad	*Bufo a. americanus*
Northern Spring Peeper	*Pseudacris c. crucifer*
Gray Treefrog	*Hyla versicolor*
Bullfrog	*Rana catesbeiana*
Green Frog	*Rana clamitans melanota*
Mink Frog	*Rana septentrionalis*
Wood Frog	*Rana sylvatica*
Northern Leopard Frog	*Rana pipiens*
Pickerel Frog	*Rana palustris*
Common Snapping Turtle	*Chelydra s. serpentina*
Common Musk Turtle	*Sternotherus odoratus*
Wood Turtle[1]	*Glyptemys insculpta*
Common Map Turtle	*Graptemys geographica*
Painted Turtle	*Chrysemys picta*
Five-lined Skink	*Eumeces fasciatus*
Northern Water Snake	*Nerodia s. sipedon*
Northern Brown Snake	*Storeria d. dekayi*
Northern Redbelly Snake	*Storeria o. occiptomaculata*
Common Garter Snake	*Thamnophis sirtalis*
Northern Ringneck Snake	*Diadophis punctatus edwardsi*
Northern Black Racer	*Coluber c. constrictor*
Smooth Green Snake	*Liochlorophis vernalis*
Black Rat Snake	*Elaphe o. obsoleta*
Eastern Milk Snake	*Lampropeltis t. triangulum*
Timber Rattlesnake[2]	*Crotalus horridus*

[1]Special Concern species, [2]Threatened species.

a. Habitat Associations

Jefferson Salamander (*Ambystoma jeffersonianum*).--Jefferson salamanders, a species of special concern, are considered to be vernal pool obligates. The salamanders require pools that remain deep long enough to complete metamorphosis. Typical Jefferson salamander breeding pools are ringed with scattered shrub vegetation in upland deciduous forest. Although the presence of vernal pools are a limiting habitat parameter for this species, adults spend a very short period of time actually using the pools, remaining there only during the breeding season (Pfingsten and Downs, 1989). Consequently, the surrounding forested habitat used during the remainder of the year (including hibernation) is of high importance.

Spotted Salamander (*Ambystoma maculatum*).-- The spotted salamander prefers vernal pools for breeding, but its jelly-like globular egg masses are found in a variety of wetland habitats. Because of its fossorial habits, the spotted salamander is rarely encountered except during the breeding season. At that time they can be found under rocks, logs, and debris near the edges of the breeding pools.

Red-spotted Newt (*Notophthalmus viridescens)*.-- One of the most fascinating life histories of any salamander is that of the Red-spotted Newt, with four stages in its life cycle (egg, aquatic larva, terrestrial immature red eft, and aquatic adult). Interestingly, the red eft remains on land from two (Bishop, 1941) to seven years (Healy, 1974) before they transform into their final life stage, the aquatic adult.

Northern Dusky Salamander (*Desmognathus fuscus*).-- The Northern Dusky Salamander inhabits rocky stream ecotones, hillside seeps and springs, and other seepage areas in forested or partially forested habitat. They are typically found under rocks and other cover objects such as logs adjacent to, or in the water (Harding, 1997).

Allegheny Dusky Salamander (*Desmognathus ochrophaeus*).-- The Allegheny Dusky Salamander is more terrestrial than its congener, the Northern Dusky Salamander, being found under rocks and woodland debris in moist forests usually near a seep or stream.

Northern Redback Salamander (*Plethodon cinereus*).-- The Northern Redback Salamander is found in deciduous, coniferous or mixed forest where it nests in moist, rotten logs. It favors pine logs in advanced stages of decay rather than deciduous tree logs that appear to be more susceptible to molds, thus attributing to possible fungal infections in the eggs (Pfingsten and Downs 1989).

Four-toed Salamander (*Hemidactylium scutatum*).--The Four-toed salamander prefers acidic wet woodlands with sphagnum moss and shallow woodland pools. This species also uses tamarack bogs. This species is nocturnal and secretive, therefore, it is difficult to locate during surveys (DeGraaf and Rudis, 1986).

Northern Spring Salamander (*Gyrinophilus porphyriticus*).-- Although Northern Spring Salamanders inhabit cool, well-oxygenated streams in forested areas where they can be found under rocks and logs, they sometimes can be found foraging in the open on rainy nights. This species also uses underground springs that are a considerable distance away from their natal habitat (Harding, 1997).

Northern Two-lined Salamander (*Eurycea bislineata*).-- Northern Two-lined Salamanders inhabit springs and seeps in forested wetlands, edges of brooks and streams, and terrestrial areas many meters from water. They are usually found under rocks, logs, and debris (Pfingsten and Downs, 1989).

Eastern American Toad (*Bufo americanus*).-- Although Eastern American Toads can be found in almost every habitat from cultivated gardens to woodlands, they are typically found in moist upland forest. Special habitat requirements include shallow water for breeding (DeGraaf and Rudis, 1983).

Northern Spring Peeper (*Pseudacris crucifer*).-- Northern Spring Peepers inhabit coniferous, deciduous and mixed forested habitat where they typically breed in ponds, emergent marshes or shrub swamps. However, their spring chorus is commonly heard from just about any body of water, especially in areas where trees or shrubs stand in and near water (Hunter, et al., 1999).

Gray Treefrog (*Hyla versicolor*).-- Gray Treefrogs are found in forested areas where they hibernate near the soil surface, tolerating temperatures as cold as -6 degrees C for as long as five consecutive days. Due to the production of glycerol which serves as an antifreeze, gray treefrogs can freeze up to 41.5% of their total body fluids. The frogs breed in both permanent or temporary ponds or wetlands (Hunter, et al., 1999).

Bullfrog (*Rana catesbeiana*).-- Bullfrogs require permanent bodies of water with adequate emergent and edge cover. Their aquatic habitats include shallow lake coves, slow-moving rivers and streams, and ponds (Hunter, et al., 1999).

Green Frog (*Rana clamitans*).-- Green frogs are rarely found more than several meters from some form of water, including lakes and ponds, streams, quarry pools, springs, and vernal pools (DeGraaf and Rudis, 1983).

Mink Frog (*Rana septentrionalis*).-- Mink frogs prefer cool, permanent water with adequate emergent and floating-leaved vegetation where they feed on aquatic insects and other invertebrates. Here they also hibernate on the bottom in the mud (Harding, 1997).

Wood Frog (*Rana sylvatica*).-- Wood frogs prefer cool, moist, woodlands where they select temporary pools for breeding. However, where vernal pools are absent, wood frogs will breed in a variety of habitats including everything from cattail swamps to roadside ditches (Hunter, et al., 1999).

Northern Leopard Frog (*Rana pipiens*).-- Although sometimes found in wet woodlands, Northern Leopard Frogs are the frog of wet meadows and open fields, breeding in ponds, marshes, and slow, shallow, vegetated streams (DeGraaf and Rudis, 1983).

Pickerel Frog (*Rana palustris*).-- Whether the habitat selected is a bog, fen, pond, stream, spring, slough, or cove, Pickerel Frogs prefer cool, clear waters, avoiding polluted or stagnant habitats. Grassy streambanks and inlets to springs, bogs, marshes, or weedy ponds are preferred habitats (Harding, 1997).
Common Snapping Turtle (*Chelydra serpentina*).-- Snapping Turtles are found in most permanent and semipermanent bodies of fresh and brackish water. Areas that have dense aquatic vegetation with deep, soft, organic substrates and plenty of cover are favored (Mitchell, 1994).

Common Musk Turtle (*Sternotherus odoratus*).--Also known as the Stinkpot, Common Musk Turtles prefer permanent bodies of water with muddy bottoms. They are also found frequently in reservoirs. Large populations of this species are found where aquatic vegetation is abundant (DeGraaf and Rudis, 1986).

Wood Turtle (*Glyptemys insculpta*).-- The Wood Turtle, a special concern species, is a semiaquatic turtle that inhabits both the terrestrial and aquatic environment. It favors streams with sandy-pebbly substrates that are deep enough so that they do not freeze during hibernation, are well-oxygenated, and have good water quality. Terrestrial habitat includes a variety of wetlands, upland successional fields, and deciduous woodlands with open areas for basking (Tuttle and Carroll, 1997).

Common Map Turtle (*Graptemys geographica*).--The Common Map Turtle ranges frm Lake Champlain to the Great Lakes region and south to Louisiana. This is an uncommon turtle of limited distribution. The Common Map Turtle inhabits rivers and lakes and prefers large bodies of water with muddy bottoms and aquatic vegetation (DeGraaf and Rudis, 1986).

Painted Turtle (*Chrysemys picta*).-- Painted Turtles most often inhabit ponds, lakes, and other slow-moving bodies of water with soft substrates and abundant aquatic vegetation. A critical habitat parameter is adequate basking sites such as logs, rocks, and mats of aquatic vegetation.

Five-lined Skink (*Eumeces fasciatus*).--The Five-lined Skink, a lizard, is found in deciduous forests and is frequently associated with timber rattlesnake habitat. This rare species is not listed as special concern in New York, but is of concern in neighboring Vermont. The species is at the northern portion of its range in New York and has a very limited distribution in the Lake George/Lake Champlain region as well as the southern portion of the Hudson Valley. This species prefers mesic wooded areas and talus slopes (DeGraaf and Rudis, 1986).

Northern Water Snake (*Nerodia s. sipedon*).-- This species is found in many aquatic habitats including lakes, ponds, rivers, and wetlands. Northern Water Snakes prefer fish and amphibians as their primary food source (Mitchell, 1994).

Northern Brown Snake (*Storeria d. dekayi*).-- Northern Brown Snakes are found in the soil-humus layer of hardwood forests, mixed hardwood-pine forests, pine woods, grasslands, early successional agricultural land, and urban areas where they are frequently found in gardens (Mitchell, 1994).

Northern Redbelly Snake (*Storeria occipitomaculata*).-- Although the Northern Redbelly Snake prefers wetland-upland ecotones, it is found in a variety of terrestrial habitats. This extremely secretive nocturnal species may be found under rocks, logs, bark, and leaves; but if conditions are dry, they are apt to go underground in unused rodent borrows (Mitchell, 1994).

Common Garter Snake (*Thamnophis sirtalis*).-- Garter Snakes are found in a wide variety of habitats including, but not limited to, woodlands, meadows, wetlands, streams, drainage ditches, and even city parks and cemeteries (Conant and Collins, 1998). But large populations of Common Garter Snakes are usually found in moist, grassy areas near the edges of water (Harding, 1997).

Northern Ringneck Snake (*Diadophis punctatus edwardsi*).-- The Northern Ringneck Snake is a secretive woodland snake and is usually more common where abundant hiding structure exists, including stones, logs, and other rotting wood. Rocky, wooded hillsides are favored.

Northern Black Racer (*Coluber c. constrictor*).--The Northern Black Racer is found in a variety of habitats including forested areas, fields, roadsides, marshes, and rocky ridges. This species is partially arboreal (DeGraaf and Rudis, 1986)

Smooth Green Snake (*Liochlorophis vernalis*).-- The Smooth Green Snake is a snake of moist, grassy areas of wetland edges, meadows and old fields, and of deciduous and coniferous woods and woodland ecotones where they feed on insects, their forage of choice (Harding, 1997).

Black Rat Snake (*Elaphe o. obsoleta*).–The Black Rat Snake uses a variety of habitats, including woodlands, field edges, farmlands, rocky hillsides and mountaintops. This species can be found

in dry oak, oak-hickory, and mesic bottomland forests. Small mammals (primarily rodents) account for the majority of its diet. Black Rat Snakes may use talus slopes for hibernation during the winter (DeGraaf and Rudis, 1986).

Eastern Milk Snake (*Lampropeltis triangulum*).-- The Milk Snake is the snake of farm outbuildings and barns, taking cover under rocks, logs, firewood, or building materials. Natural habitat includes open woodlands, wetlands, old fields and pastures (Harding, 1997).

Timber Rattlesnake (*Crotalus horridus*).--One of the most notable species found on the unit is the Timber Rattlesnake, a threatened species. The population in this area is near the northernmost limits of its geographical range. This snake prefers forested areas with rocky outcrops (with southern exposures), dry ridges, talus slopes, and high rodent populations. See Critical Habitat Section for more information on this species.

2. Birds

The avian community varies seasonally. Some species remain within the area year round, but the majority of species utilize the area during the breeding season and for migration. The first Breeding Bird Atlas Project (BBA) conducted during 1980-1985 (Andrle and Carroll, 1988) and the Breeding Bird Atlas 2000 Project (2000-2005) documented 150 and 111 species, respectively, in atlas blocks within, or partially within the LGWF (Appendix Two). It is important to note that atlas blocks overlap and extend beyond the land boundary of the LGWF (Appendix Two). Therefore, these data do not necessarily reflect what is found on the unit, but on the atlas blocks. It is probable that some species determined to be present by BBA surveys were found only on private lands adjacent to the state lands. However, the BBA data should provide a good indication of the species found throughout the unit and adjacent region.

In atlas blocks within, or partially within the LGWF, 104 species common to both atlas projects have been documented, representing 69% and 94% of the total species recorded during 1980-1985 and 2000-2005, respectively. The first atlas project documented 46 species not found during BBA 2000, and 7 species have been documented during BBA 2000 that were not found during the first survey effort (also see Table 4). Many factors can influence survey results (e.g., weather, survey effort), therefore, these comparisons should be used as a tool for further study and monitoring of bird populations and not as a definitive statement on bird population changes.

b. Habitat Associations

In additional to mixed northern hardwood forests, other habitats types of importance include lakes, ponds, streams, bogs, beaver meadows, and shrub swamps.

Birds associated with marshes, ponds, lakes, and streams include: common loon, pied-billed grebe, great blue heron, green-backed heron, American bittern, and a variety of waterfowl. The most common ducks include the mallard, American black duck, wood duck, hooded merganser, and common merganser. Other species of waterfowl migrate through the region following the Atlantic Flyway.

Bogs, beaver meadows, shrub swamps, and any areas of natural disturbance provide important habitat for species that require or prefer openings and early successional habitats. Species such as Alder and Olive-sided Flycatchers, American Woodcock, Lincoln Sparrow, Nashville Warbler, Chestnut-sided Warbler, Brown Thrasher, Blue-winged Warbler, Yellow Warbler, Common Yellowthroat, Indigo Bunting, Eastern Towhee, and Field Sparrow rely on these habitats and are rarely found in mature forests. These species, as a suite, are declining more rapidly throughout the Northeast than species that utilize more mature forest habitat. Habitat for these species are, and will be, very limited within LGWF.

Birds that prefer forest habitat are numerous, including many neotropical migrants. Some species prefer large blocks of contiguous forest (e.g., Northern Goshawk), others prefer blocks of forest with adjacent openings, and many prefer forest with a relatively thick shrub layer. The forest currently is maturing, and will eventually become old growth forest dominated by large trees.

Songbirds are a diverse group filling different niches in the Adirondacks. The most common species found throughout the deciduous or mixed forest include the Ovenbird, Red-eyed Vireo, Yellow-bellied Sapsucker, Black-capped Chickadee, Blue Jay, Downy Woodpecker, Brown Creeper, Wood Thrush, Black-throated Blue Warbler, Pileated Woodpecker, and Black and White Warbler. The Golden-crowned Kinglet, Purple Finch, Pine Sisken, Red and White-winged Crossbill and Black-throated Green Warbler are additional species found in the coniferous forest and exhibit preference for this habitat. Birds of prey common to the area include the Barred Owl, Great Horned Owl, Eastern Screech-owl, Northern Goshawk, Red-tailed Hawk, Sharp-shinned Hawk, and Broad-winged Hawk.

Game birds include upland species such as turkey, ruffed grouse and woodcock, as well as a variety of waterfowl. Ruffed grouse and woodcock prefer early successional habitats and their habitat within the area is limited due to the lack of timber harvesting. Turkey are present in low numbers and provide some hunting opportunities. Waterfowl are fairly common along the waterways and marshes and provide hunting opportunities.

3. Mammals

a. Large and Medium-sized Mammals

Large and medium-sized mammals known to occur in the central and southern Adirondacks are also believed to be common inhabitants of the LGWF and include the white-tailed deer, moose, black bear, coyote, raccoon, red fox, gray fox, bobcat, fisher, river otter, mink, striped skunk, long-tailed weasel, short-tailed weasel, beaver, muskrat, porcupine, and snowshoe hare (Saunders, 1988). American martens likely occur at the periphery of their range in the eastern Adirondacks; however, this species probably occurs at low densities in this general region that includes LGWF and Pharaoh Lake Wilderness Area to the north (P. Jensen, NYSDEC, unpublished data). Of the above species, white-tailed deer, black bear, coyote, raccoon, red fox, gray fox, long-tailed weasel, short-tailed weasel, bobcat, and snowshoe hare can be hunted. Additionally, these species (with the exception of white-tailed deer, black bear, and snowshoe hare) along with fisher, mink, muskrat, beaver, and river otter can be trapped. Hunting and trapping activities are highly regulated by DEC, and the DEC's Bureau of Wildlife collects annual harvest data on many of these species. See Appendix One for listing of mammals that might occur within the unit.

Important big game species within the area include the white-tailed deer and black bear. Generally, white-tailed deer can be found throughout LGWF. From early spring (April) to late fall (November), deer are distributed generally on their "summer range". When snow accumulates to depths of 20 inches or more, deer travel to their traditional wintering areas. This winter range is characteristically composed of lowland spruce-fir, cedar or hemlock forests, and to a lesser degree, a combination of mixed deciduous and coniferous cover types. Often found at lower elevations along water courses, this habitat provides deer with protective cover from adverse weather and easier mobility in deep snows (see Critical Habitat section).

Chronic Wasting Disease (CWD) in White-tailed Deer

Chronic Wasting Disease (CWD) is a rare, fatal, neurological disease found in members of the deer family (cervids). It is a transmissible disease that slowly attacks the brain of infected deer and elk, causing the animals to progressively become emaciated, display abnormal behavior, and invariably results in the death of the infected animal. Chronic Wasting Disease has been known to occur in wild deer and elk in the western U.S. for decades and its discovery in wild deer in Wisconsin in 2002 generated unprecedented attention from wildlife managers, hunters, and others interested in deer. Chronic Wasting Disease poses a significant threat to the deer and elk of North America and, if unchecked, could dramatically alter the future management of wild deer and elk. However, there is no evidence that CWD is linked to disease in humans or domestic livestock other than deer and elk.

In 2005, the DEC received confirmation of CWD from two captive white-tailed deer herds in Oneida County and subsequently detected the disease in 2 wild deer from this area. Until recently, New York was the only state in the northeast with a confirmed CWD case in wild deer. However, CWD was recently detected in wild deer in West Virginia.

The DEC has established a containment area around the CWD-positive samples and will continue to monitor the wild deer herd in New York State. More information on CWD, New York's response to this disease, the latest results from ongoing sampling efforts, and current CWD regulations are available on the DEC website:
http://www.dec.state.ny.us/website/dfwmr/wildlife/deer/currentcwd.html

Bears

Black bears are essentially solitary animals and tend to be dispersed throughout the unit. The Adirondack region supports the largest black bear population in New York State (4,000 to 5,000 bears). Hikers and campers in this region are likely to encounter a bear, and negative interactions between black bears and humans, mainly related to bears stealing food from humans, have been a fairly common occurrence in the Adirondack High Peaks for at least twenty years. In 2005 a new regulation was enacted, requiring all overnight campers in the Eastern High Peaks Wilderness Area to use bear-resistant canisters for food, toiletries, and garbage. In other areas of the Adirondacks, DEC recommends the use of bear resistant canisters as well.

Moose

Moose entered the state on a continuous basis in 1980, after having been absent since the 1860's. Currently, the moose population in New York State is estimated to be approximately 150-200 animals (Al Hicks, DEC, personal communication). In the northeastern United States, moose use seasonal habitats within boreal and mixed coniferous/deciduous forests. The southern distribution of moose is limited by summer temperatures that make the regulation of body temperature difficult. Moose select habitat primarily for the most abundant and highest quality forage (Peek 1997). Disturbances such as wind, fire, logging, tree diseases, and insects create openings in the forest that result in regeneration of important hardwood browse species such as white birch, aspen, red maple, and red oak. Typical patterns in moose habitat selection during the summer include the use of open upland and aquatic areas in early summer followed by the use of more closed canopy areas (such as upland stands of mature aspen and white birch) that provide higher quality forage in late summer and early autumn. After the fall rut and into winter, moose intensively use open areas again where the highest biomass of woody browse exists (i.e., dormant shrubs). In late winter when browse quantity and quality are lowest, moose will use closed canopy areas that represent the best cover available within the range (e.g., closed canopy conifers in boreal forest). From late spring through fall, moose commonly are associated with

aquatic habitats such as lakes, ponds, and streams. However, use of aquatic habitats can vary geographically over their range. It is believed that moose use aquatic habitats primarily to forage on highly palatable plants, however, moose may also use these areas for relief from insects and high temperatures.

b. Small Mammals

The variety of habitats that occur within the Adirondack region are home to an impressive diversity of small mammals. These mammals inhabit the lowest elevations to those as high as 4,400 feet (Southern bog lemming). Most species are found in forested habitat (coniferous, deciduous, mixed forest) with damp soils, organic muck, or soils with damp leaf mold. However, some species (e.g., hairy-tailed mole) like dry to moist sandy loam soils and others (e.g., white-footed mouse) prefer the drier soils of oak-hickory, coniferous, or mixed forests. Small mammals of the Adirondack region are found in alpine meadows (e.g., long-tailed shrew), talus slides and rocky outcrops (e.g., rock vole), grassy meadows (e.g., meadow vole, meadow jumping mouse), and riparian habitats (e.g., water shrew). It is likely that many, if not most, of the small mammal species listed below inhabit the LGWF (Table 3), however, our understanding of small mammal populations is limited. An exception may be the Northern bog lemming, a species whose southernmost range extends just into the northern portion of Adirondack Park; only one recently-verified specimen exists (Saunders, 1988). All listed species are known to occur within Adirondack Park.

Table 3. Small mammal species recorded within Adirondack Park (data based on museum specimens; Saunders, 1988). Number of towns represents the number of towns in which each species was recorded.

Common Name	Scientific Name	Number of Towns
Star-nosed mole	*Condylura crestata*	6
Hairy-tailed mole	*Parascalops breweri*	11
Short-tailed shrew	*Blarina brevicauda*	31
Pygmy shrew	*Sorex hoyi*	1
Long-tailed shrew	*Sorex dispar*	7
Smoky shrew	*Sorex fumeus*	18
Water shrew	*Sorex palustris*	10
Masked shrew	*Sorex cinereus*	25
Deer mouse	*Peromyscus maniculatus*	26
White-footed mouse	*Peromyscus leucopus*	14
Southern red-backed vole	*Clethrionomys gapperi*	32
Meadow vole	*Microtus pennsylvanicus*	31
Yellownose vole	*Microtus* chrotorrhinus	6

Woodland vole	*Microtus pinetorum*	1
Southern bog lemming	*Synaptomys cooperi*	12
Northern bog lemming	*Synaptomys borealis*	1
Meadow jumping mouse	*Zapus hudsonicus*	22
Woodland jumping mouse	*Napaeozapus insignis*	25

4. Endangered, Threatened, and Special Concern Species

New York has classified species at risk into three categories, endangered, threatened, and species of special concern (*6 NYCRR* §*182*). The following section indicates the protective status of some vertebrates that may be in the unit:
Endangered: Any species that is either native and in imminent danger of extirpation or extinction in New York; or is listed as endangered by the US Department of Interior.
Threatened: Any species that is either native and likely to become endangered within the foreseeable future in New York; or is listed as threatened by the US Department of the Interior.
Special Concern: Native species not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, they receive no additional legal protection under the Environmental Conservation Law; but, they could become endangered or threatened in the future and should be closely monitored.

The following section describes those species that are classified as endangered, threatened, or special concern within LGWF and briefly summarizes the habitat requirements of these species.

Table 4. Endangered, threatened, and special concern species documented in survey blocks within, or partially within, Lake George Wild Forest (LGWF). Bird data were collected during the 1980-1985 and 2000-2005 Breeding Bird Atlas projects and through NYNHP surveys. Amphibian and reptile data were collected during the 1990-1999 Amphibian and Reptile Atlas Project[1] and through NYNHP surveys.

Breeding Bird Atlas Project		**NYNHP**	
Common Name	Scientific Name	1980-1985	2000-2005
Birds			
Endangered			
Peregrine Falcon	*Falco peregrinus*	✓	✓
Threatened			
Northern Harrier	*Circus cyaneus*	✓	
Bald Eagle	*Haliaeetus leucocephalus*	✓	✓

Pied-billed Grebe	*Podilymbus podiceps*	✓	✓
Least Bittern	*Ixobrychus exilis*	✓	
Special Concern			
American Bittern	*Botaurus lentiginosus*	✓	✓
Common Loon	*Gavia immer*	✓	✓
Cooper's Hawk	*Accipiter cooperii*	✓	✓
Osprey	*Pandion haliaetus*	✓	✓
Sharp-shinned Hawk	*Accipiter striatus*	✓	✓
Northern Goshawk	*Accipiter gentilis*	✓	
Common Nighthawk	*Chordeiles minor*	✓	✓
Red-shouldered Hawk	*Buteo lineatus*	✓	✓
Red-headed Woodpecker	*Melanerpes erythrocephalus*	✓	
Whip-poor-will	*Caprimulgus vociferus*	✓	✓
Golden-winged Warbler	*Vermivora chrysoptera*	✓	
Grasshopper Sparrow	*Ammodramus savannarum*	✓	
Vesper Sparrow	*Pooecetes gramineus*	✓	

Amphibians and Reptiles

Special Concern			
Wood Turtle	*Glyptemys insculpta*		
Jefferson Salamander	*Ambystoma jeffersonianum*		
Threatened			
Timber Rattlesnake	*Crotalus horridus*		✓

a. Habitat Associations

1. Endangered Species

- Peregrine Falcon (*Falco peregrinus*). -- The Peregrine Falcon is listed as endangered in New York State. After extirpation of Peregrines in the 1960s, New York initiated a program in 1974 to reintroduce the falcons in the state. Peregrines were successfully hacked in the Adirondack Park with the release of the first birds in 1981. Three basic habitat requirements are necessary for nesting Peregrine Falcons including open country in which to hunt, sufficient food resources (i.e., other avian species), and steep, rocky cliff faces for nesting (Ratcliffe, 1993). The falcons typically nest 50 to 200 feet off the ground and often near a river, stream, or other water body. Nesting sites for Peregrines usually include a partially-vegetated ledge (with both herbaceous and woody species) that is large enough for at least several young to move about during the pre-fledging period. The nest is a well-rounded scrape that is sometimes lined with grass. Ideally, the eyrie ledge also is sheltered by an overhang that protects the chicks from inclement

weather. Occasionally, Peregrines may nest in old Common Raven nests. Suitable nest sites (e.g., snags, live trees, ledges) are located on the cliff face near the eyrie, on more distant sections of the cliff, and on the cliff rim.

2. Threatened Species

- Northern Harrier (*Circus cyaneus*).-- The Northern Harrier is a bird of open country and is associated with wet to mesic habitats (Johnsgard,1990). Results of a 1979 survey showed that bogs and other wetland habitats provided nesting sites for Northern Harriers in the Adirondacks (Kogut, 1979 *In*: Andrle and Carroll 1988). Unlike most New York raptors, harriers nest on the ground, either on hummocks or directly on the ground in nests that are woven from grass and sticks (Andrle and Carroll, 1988).
- Bald Eagle (*Haliaeetus leucocephalus*).-- Bald eagles breed in forested and open areas that are usually near large bodies of water with an abundance of fish. Bald eagles construct their nests in large living trees, approximately 50 to 60 feet off the ground and occasionally on cliffs. Tree species used for nesting is not as important as its structural characteristics (e.g., size, shape) and distance to other nesting eagles. Nesting sites with an unobstructed view are preferred and access points to and from the nest (pilot trees) and perch trees are important components of bald eagle habitat. Bald eagles are sensitive to human disturbance.
- Pied-billed Grebe (*Podilymbus podiceps*).--Pied-billed Grebes breed in ponds with heavy emergent vegetation, marshes, and marshy inlets of open water. Special habitat requirements include open water with areas of aquatic vegetation. Nests are built over shallow water anchored to the stems of emergent vegetation (DeGraaf and Rudis, 1986).
- Least Bittern (*Ixobrychus exilis*).--Emergent wetlands such as cattail marshes are the preferred habitat for Least Bitterns in upstate New York.. Nests woven of cattails and various other herbaceous species are usually built by the male (Andryle and Carroll, 1988) and placed from one to four feet above water level (Bull, 1974).

3. Special Concern Species

a. Birds

- American Bittern (*Botaurus lentiginosus*).-- In the Adirondacks, the American Bittern is a bird of freshwater emergent wetlands where it typically nests on a grass tussock or among the cattails. Here it lays its eggs from 4 to 18 inches above the water (Bull, 1974) in scanty nests made from sticks, grass, and sedges. Separate paths are made in the tall vegetation for entering and exiting the nest (Erlich et al., 1988).
- Common Loon (*Gavia immer*).-- Common Loons use small and large freshwater lakes in open and densely forested areas for breeding and nest on lakes as small as two acres. Special habitat requirements include bodies of water with stable water levels with little or no human disturbance. Loons use islets for nesting and shallow coves for rearing their young. Nests are constructed on the ground at the water's edge on sand, rock, or other firm substrates. Loons prefer small islands for nesting (to avoid predators) but will also

nest along protected bays and small peninsulas of the shoreline. In an extensive project undertaken to determine the status of the common loon in New York, NYSDEC staff surveyed 557 lakes in the northern part of the state during 1984 and 1985.

- Cooper's Hawk (*Accipiter cooperii*).-- Cooper's Hawks use a variety of habitat types, from extensive deciduous or mixed forests to scattered woodlots interspersed with open fields. Floodplain forests and wooded wetlands are also used by Cooper's Hawks. Cooper's hawk construct nests typically at a height of 35 to 45 feet in both conifer (often white pine) and deciduous trees (often American beech). Nests are commonly constructed on a horizontal branch or in a crotch near the trunk. Cooper's Hawks have been known to use old crow nests as well. Foraging areas are usually located away from the nest in forested areas or open areas adjacent to forest.
- Osprey (*Pandion haliates*). -- Osprey breed near large bodies of water, including rivers and lakes, that support abundant fish populations. Osprey typically construct their nest in tall dead tress, but also use rocky ledges, sand dunes, artificial platforms, and utility pole crossarms. Nests are placed in locations that are taller than adjacent areas, which provide vantage points.
- Sharp-shinned Hawk (*Accipiter striatus*).-- Sharp-shinned Hawks prefer breeding habitats that consist of open or young woodlands that support a large diversity of avian species, the hawk's primary prey (Johnsgard, 1990). Although Sharp-shinned Hawks use mixed conifer-deciduous forest for nesting, most nests recorded in New York State have been located in conifers, with 80% of the nests found in hemlocks (Bull, 1974).
- Northern Goshawk (*Accipiter gentilis*).-- Important habitat characteristics for Northern Goshawk include a combination of tall trees with a partial canopy closure for nesting and woodlands with small, open areas for foraging (Johnsgard, 1990). In New York State, goshawks prefer dense, mature, continuous coniferous or mixed woods where they typically place their nest 30-40 ft. off the ground in the crotch of a tree (Andrle and Carroll, 1988).
- Common Nighthawk (*Chordeiles minor*).-- Two distinct habitats are used by nesting Common Nighthawks: bare flat rocks or bare ground in open fields and pastures, and, more recently (since the mid-late 1800s), on flat, gravel rooftops (Bent, 1940). In upstate New York nighthawks also nest in mountainous areas, provided woods are interspersed with clearings or openings (Bull, 1974).
- Red-shouldered Hawk (*Buteo lineatus*).-- Red -shouldered Hawks breed in moist hardwood, forested wetlands, bottomlands and the wooded margins of wetlands, often close to cultivated fields, Red-shouldered hawks are reported as rare in mountainous areas. Special habitat requirements include cool, moist, lowland forests with tall trees for nesting. Red-shouldered hawks forage in areas used as nesting habitat as well as drier woodland clearings and fields.
- Red-headed Woodpecker (*Melanerpes erythrocephalus*).-- Both wetlands (forested and riverine wetlands, beaver impoundments, dead tree swamps) and uplands (grasslands with scattered trees, golf courses, pastures, roadsides) are used by nesting Red-headed

Woodpeckers (Bull, 1974). Red-headed Woodpeckers also are attracted to old burns and recent clearings. Nests are usually located in snags or dead limbs of live trees, or in the absence of trees, poles, fences, or roofs (Erlich, 1988).

- Whip-poor-will (*Caprimulgus vociferus*).--Whip-poor-will select open woodlands in lowland deciduous forest, montane forest, or pine-oak woods (Erlich, et. al., 1988) that is interspersed with open fields, with a preference for dry oak-hickory woods in some areas of upstate New York (Bull, 1974). Whip-poor-will nest on the ground in dry, sparse areas. Eggs are typically laid in the open or under a small shrub on the leaf litter where they are well concealed (Bent, 1940).
- Golden-winged Warbler (*Vermivora chrysoptera*).-- Golden-winged Warblers prefer dense brush and scattered small trees, habitat that commonly succeeds as a result of abandoned farmland. In fact, large areas of land in early, secondary stages of succession coincide with the expansion of the Golden-winged Warbler in New York and New England (Andrle and Carroll 1988). On the ground at the base of a grass tuft, the Golden-winged Warbler hides its cup-shaped nest of long grass strips or grapevine bark; grapevine fibers smoothly line the nest (Erlich, 1988).
- Grasshopper Sparrow (*Ammodramus savannarum*).--The Grasshopper Sparrow is a grassland bird that uses hayfields and weedy fallow fields, but avoids shrubby fields. This species favors uplands with continuous tall herbaceous cover of various densities. Nests are located in a depression on the ground, usually well hidden by grasses (DeGraaf and Rudis, 1986).
- Vesper Sparrow (*Pooecetes gramineus*).--The Vesper Sparrow is a grassland bird that breeds in short-grass meadows, pastures, hayfields, dry open uplands, and burned and cut-over forests. Special habitat requirements include open areas with short herbaceous vegetation and conspicuous singing perches (DeGraaf and Rudis, 1986).

b. Amphibians and Reptiles

See Habitat Associations of Amphibians and Reptiles.

5. Extirpated and Formerly Extirpated Species

The moose, elk, wolf, eastern cougar, Canada lynx, bald eagle, golden eagle, and peregrine falcon all inhabited the Adirondacks prior to European settlement. All of these species were extirpated from the Adirondacks, mostly as a result of habitat destruction during the nineteenth century. Unregulated harvest also lead to the decline of some species, such as moose, wolf, elk, beaver, American marten, and fisher. More recently some birds fell victim to the widespread use of DDT.

Projects to re-establish the peregrine falcon, bald eagle, and Canada lynx have been implemented. A total of 83 Canada lynx were released into the Adirondack Park from 1989 to 1991 by the SUNY College of Environmental Science and Forestry as part of their Adirondack Wildlife Program. Lynx dispersed widely from the release area and mortality was high, especially mortality caused by vehicle-animal collisions. It is generally accepted that the lynx

restoration effort was not successful and that there are no lynx from the initial releases or through natural reproduction of released animals remaining in the Adirondacks. Lynx are legally protected as a game species with no open season as well as being listed as threatened on both the Federal and State level.

Efforts to reintroduce the peregrine falcon and the bald eagle through "hacking" programs began in 1981 and 1983, respectively. These projects have been remarkably successful within New York. Bald Eagles are becoming much more common, and Peregrines are recovering. Both species are now found in portions of the Adirondacks and are believed to be common residents within LGWF. Golden Eagles are generally considered to have always been rare breeders within the state.

The wolf and eastern cougar are still generally considered to be extirpated form NYS. Periodic sightings of cougars are reported from the Adirondacks, but the source of these individuals is believed to be from released captive individuals. Reports of timber wolves are generally considered to be misidentified coyotes, although there is some evidence to suggest that the Eastern coyote found in the Adirondacks may be a hybrid between the red wolf and coyote.

6. Invasive/Exotic Wildlife

As with plant species, these organisms do not occur naturally in New York State. While some species go relatively unnoticed (e.g., spiny water flea), other introductions such as the zebra mussel have caused great concern. Zebra mussels occur in small numbers in Lake George, but populations are thought to be calcium-limited in this watershed. The Lake George Association (LGA) is presently monitoring zebra mussel populations in Lake George. Domestic canines and felines can also have an impact on native deer, rodents, and birds.

a. Overabundant Double-crested Cormorant Populations

Double-crested Cormorant populations have increased markedly across New York in recent years, likely a result of a cleaner environment and fewer pesticides causing reproductive problems. Large nesting colonies and high densities of nesting cormorants can cause significant ecological damage. In Lake Champlain, destruction of vegetation on nesting islands in Vermont by cormorants threatens populations of common terns, a threatened species. Additionally, thousands of cormorants stopping over during the fall migration have raised concerns about their effect on ecologically and economically important fisheries. The DEC Division of Fish, Wildlife and Marine Resources (DFWMR), in cooperation with U.S. Department of Agriculture (USDA) Wildlife Services, plans to carry out integrated double-crested cormorant management programs to alleviate and prevent conflicts with public resources at specific problem areas in New York, including Lake Champlain. Recently, small numbers of cormorants have been observed on Lake George (likely from Lake Champlain) and continued monitoring of this species in the region is warranted.

7. Other Fauna

Other, less known, members of the animal kingdom occur within the unit. Insects are the most notable and abundant form of animal life. Some species can cause human health concerns (e.g., Giardia, swimmer's itch) or are generally considered a nuisance (e.g, black flies, mosquitoes) to individuals that recreate in the area.

CRITICAL HABITAT

1. Peregrine Falcon Nesting Areas

Peregrine falcons, an endangered species in New York State, nest on cliffs in the Adirondack region. The population of Peregrine Falcons has steadily grown in the state due to a successful hacking program initiated by DEC in this region in the late 1970s. Peregrines first mate when they are 1 to 3 years old, building nests on high cliff ledges 20 to 200 feet off the ground. The same nesting ledge, called an eyrie, may be used year after year. The female lays 3 to 5 eggs in a nest, called a scrape, which consists of a shallow depression in the gravel found on the ledge. These eyries are aggressively protected against predators, and humans, by both the male and female peregrine. The young hatch after a 28 to 33 day incubation period. Each chick will stay in and about the nest until it fledges at 35 to 45 days of age. Young will stay with the parents for a few more weeks to perfect their flying and hunting skills. As cooler weather approaches, peregrines begin to migrate south. In the spring, peregrines have a tendency to return to the same region from which they fledged.

a. Peregrine Falcons and Rock Climbers

Human disturbances, such as rock climbing on cliffs containing eyries, can be a potential problem to nesting Peregrines. Human disturbance within the territory of a breeding pair may result in nest abandonment and/or death of any young. Rock climbing routes with known peregrine falcon nesting sites are monitored by DEC annually throughout the Adirondacks. Rock climbing routes with active nest sites are temporarily closed to prevent any disturbances that might interfere with the successful raising of the young peregrine falcons. The closure of climbing routes is based on a number of factors, including the route's proximity to a nesting site, observations of alarm behavior by the nesting falcons, and professional judgement by DEC staff. The specific areas of the cliff that are closed to rock climbing represent a balance between the recreational interests of climbers and the need to protect the breeding and nesting activities of this endangered species. The department's priority is protecting an endangered species; however, attempts are made to maximize the opportunities for climbing at the same time. This is the reason why individual rock climbing routes are closed rather than entire cliffs. While rock climbing in the unit does not appear to be a major recreational pursuit at this time, DEC can implement appropriate management actions should this activity increase in the future.

In summary, DEC stresses the following points to Adirondack rock climbers:

- Peregrine Falcons are an endangered species and are protected under state and federal law,
- Human disturbance within the territory of a breeding pair may result in nest abandonment and/or death of any young,
- Certain rock climbing routes are closed and illegal to climb during the breeding season, and
- Falcons are very territorial and will utilize their razor sharp talons in defense of their domain, including attacks on humans.

2. Timber Rattlesnake Habitat

Timber rattlesnakes play an important ecological role in deciduous forest communities as a small mammal predator. This species has a limited distribution in the state, occurring along the New York/Pennsylvania border, in southeastern New York in the Hudson Valley, and in northeastern New York in the Lake George/Lake Champlain basins (DEC, Amphibian and Reptile Atlas Project, unpublished data). In northeastern New York, this species prefers well-drained oak-hickory forests consisting of three habitat types that are necessary for it to meet its life history requirements. These habitat types include denning areas (southeast-oriented talus slopes located below a cliff face), basking areas (open rocky and grassy areas near the den which are used primarily for basking, shedding, and birthing), and summer range (predominately northern hardwood forests) used as foraging habitat and where knolls and rocky outcrops provide basking areas for mating and shedding (Brown, 1993). Timber rattlesnakes hibernate from early autumn to early spring. After emerging in May, the active season lasts 5 months through September (Brown, 2000). The snakes move from the dens in spring to their summer range (1-3 miles). The life history and reproductive biology of timber rattlesnakes are such that populations are sensitive to habitat disturbances and factors that increase mortality. These characteristics include extensive movements by male snakes in the summer, a long delay until female sexual maturity (i.e., females don't reproduce until 9 or 10 years old), low birthing frequency (females reproduce only at 3-year and 4-year intervals), and low reproductive output over the life span of females (they reproduce, on average, only once or twice during their lifetimes; Brown, 2000). Therefore, habitat protection and protection from poaching and illegal collections are priorities for timber rattlesnake conservation. As part of this conservation program, public outreach to users of the unit and residents of the region concerning this important species should continue.

3. Deer Wintering Areas

The maintenance and protection of deer wintering areas (or deer yards) are important in maintaining northern deer populations. These areas provide deer with relief from the energetic demands of deep snow and cold temperatures at a time when limited fat reserves are being used to offset reduced energy intake (i.e., nutritionally, winter browse is poor). Previous researchers

have demonstrated that deer consistently choose wintering areas which provide relief from environmental extremes over areas that may provide more abundant forage (Severinghaus, 1953; Verme, 1965). These observations are consistent with the fact that the nutritional value of winter browse is poor due to low digestibility and that deer can expend more energy obtaining browse than the energy gained by its consumption (Mautz, 1978).

Severinghaus (1953) outlined several habitat components of deer yards, including topography and forest cover type (i.e., presence of conifers). The most important characteristic of an Adirondack deer yard is the habitat configuration making up a "core" and travel corridors to and from the core. The core is typically an area, or areas, of dense conifer cover used by deer during severe winter weather conditions. Travel corridors are dense but narrow components which allow access to food resources (hardwood browse) in milder conditions. Use of wintering areas by deer can vary over time depending on winter severity and deer population density. Although Severinghaus (1953) reported that some Adirondack deer yards have been used since the early 1800's, recent research suggests that the location of some current deer yards may overlap very little (or not at all) with their historical counterparts mapped in the late 1960's and early 1970's by DEC (Hurst, 2004). Therefore, planning for the protection of deer wintering areas relative to recreational activities in the unit should consider the dynamic nature of these areas (not the static representation of historical boundaries) and seek to update our understanding of wintering areas currently used by deer.

a. Historical and Potential Deer Wintering Habitat

Historical deer wintering areas have been identified within LGWF, with 2 large core areas located along the eastern and western shores of Lake George in the Tongue Mountain Range and from Shelving Rock to Huletts Landing, respectively (Ed Reed, DEC, unpublished data). At least 3 other historical deer wintering areas have been identified in the following general areas: west of Bass Bay and Silver Bay, between Bumps Pond and Spectacle Ponds, and between Little Buck Mountain and Buck Mountain. A GIS model of potential deer wintering habitat was recently developed for the Adirondacks (J. Gagnon and S. McNulty, Adirondack Ecological Center, unpublished data) and model results suggest fairly extensive areas of potential deer wintering habitat within the unit (Appendix Thirteen).

b. Guidelines for Protection of Deer Wintering Areas

Research on wildlife responses to winter recreation (e.g., cross-country skiing, foot travel, snowmobiling) is limited. Studies conducted on mule deer (Freddy et al., 1986) and elk (Cassirer et al., 1992) suggest that these species can be disturbed by these activities. However, when planning the location of recreational trails, general guidelines for protecting deer wintering areas can be followed which should reduce the potential for disturbance.

Activities which substantially diminish the quality or characteristics of the site should be avoided, but this does not mean human use is always detrimental. Pass through trails, and other recreational uses can be compatible with deer wintering areas if they are carefully considered. Recreational planning which affords protection of core sections and avoids fragmenting travel corridors are acceptable in many situations. Certain types of recreation such as cross-country skiing are not presently considered to significantly impact deer yards in an overall negative way, particularly if the traffic along trails is not prone to stopping or off-trail excursions. These types of trails in or adjacent to deer wintering areas can provide a firm, packed surface readily used by deer for travel during periods of deep snow. They can also create access for free-roaming dogs if the location is close to human habitation; thus, trails should avoid deer yards in these situations. High levels of cross-country ski use can increase the energy demands of deer within the yard due to increased movement.

In summary, general guidelines for protecting deer wintering areas include:

- Within travel corridors between core wintering areas, avoid placement of trails within a 100 foot buffer on either side of streams,
- Avoid placement of trails through core segments of deer yards to reduce disturbance associated with users stopping to observe deer,
- Trails should not traverse core segments of deer yards in areas adjacent to densely populated areas such as hamlets, villages, or along roadsides developed with human habitation because they provide access to free roaming dogs,
- In areas with nearby human habitation, avoid land uses which result in remnant trails, roadways or other access lanes which facilitate accessibility to free-roaming dogs.

c. Fisheries Inventory

Geological History

The surface waters of the eastern portion of the LGWF are located in the Lake George Drainage Basin which, according to 6 NYCRR 608, is a portion of the larger Lake Champlain drainage basin. Lake George itself is situated in the approximate center of the LGWF unit. On the western portion of the unit, surface waters are within the Upper Hudson River Drainage Basin. The division between these two watersheds is delineated by the mountain range which rises between the Schroon River Valley and the western shore of Lake George. The waters of both drainage basins owe their origins to the Grenville Orogeny and the action of the Wisconsin Glacier on the regional landscape. As outlined in Section 1, the landscape features granitic horsts as mountains and depressed grabins as lake valleys and river channels. Frequently the grabens contain limestone, sandstone and other forms of sedimentary rock which covered the

area prior to the Grenville Orogeny. Depending on the geology and physical features of the basins, the lakes and ponds of the unit may feature deep clear waters or shallow, algae and plankton rich waters.

Lakes formed in this unit largely in response to the geologic upheaval of the Grenville Orogeny and the geologic rebound of bedrock following the retreat of the glaciers, but some lakes such as Jabe Pond seem to have been formed by the effect of the Wisconsin Glacier and smaller regional glaciers. Jabe Pond appears as a kettle lake formed when a solitary block of ice left behind by a glacier was buried beneath glacial outwash or the sediments of a glacial lake. As the block melted and the outwash waters receded, what was left behind was a kettle hole shaped depression or kettle lake inside a circular wall of glacial moraine (the rock, sand and mud left behind by a glacier). These lakes often feature a more or less rounded outline and poorly integrated feeder and outlet streams.

Rivers of the region such as the Schroon (not within the unit) and Hudson owe their origin in the region to the combined action of the McGregor fault and the Wisconsin glacier. In the north the Schroon and Hudson follow a channel cut by the erosion of glacial outwash through glacial moraine. The channels of these rivers seem to flow atop a graben which lies to the west of the McGregor fault.

Retreating glaciers also deposited accumulations of glacial till, a mixture of clay, silt, sand, and stone, in their wake which dammed stream channels to form numerous lakes, kettle ponds, and wetlands. According to geologic studies of the Lake George basin, it was the deposition of glacial till adjacent to French Mountain which sealed the southern end of Lake George and allowed the basin to fill. This causes the southern basin of Lake George to be considered a moraine lake. Moraine lakes occurred when glacial debris blocked a river valley forming a natural dam.

Fisheries of the Unit

In all, forty-seven ponds and lakes occur within, or border the unit. All of these surface waters are shown on the current U.S.G.S. 7.5-minute topographic maps. Surface waters are dispersed throughout the planning unit, and range in size from about an acre to Lake George with a surface area of 28,200 acres.

Ponded waters in or bordering the unit have a total acreage of 28,764 acres. The area also contains hundreds of miles of small, coldwater streams and beaver flows. Prominent streams include Northwest Bay Brook and Indian Brook on the west side of the unit, as well as a 4-mile long stretch of the Hudson River adjacent to the Hudson River Special Management Area (HRSMA). See Appendix Four for Pond Narratives section and related fisheries tables.

With regard to fisheries, it has been determined that several ponds within the unit containing non-native species cannot be returned to natural conditions (natives only). In some of these ponds, their association with contiguous wetlands precludes effective treatment with rotenone. In other ponds, the absence of a natural fish barrier or a suitable site upon which to construct a fish barrier precludes effective treatment with rotenone. As other fishes become established in these waters, it is likely that brook trout will be eliminated from these ponds. These ponds cannot be restored with current technology.

The improvement of access has been an ongoing part of the Bureau of Fisheries' activities, especially in the South Basin. Year-round public access is available at Mossy Point Boat Launch Site in Ticonderoga which serves the northern portion of Lake George. Public access to the South Basin is limited to a seasonally operated DEC launch at the Lake George Beach and to a DEC launch at Hearthstone campsite. The launch at the Lake George Beach is operated from the time of ice-out to Memorial Day and from Labor Day to ice-up. In late 2005, Norwal Marina was purchased by the town of Bolton and its Local Development Corp. DEC is involved in its ownership of a Conservation Easement on this site, only. That easement in essence says that the site will be maintained as a public park and boat launch site, providing public access to the lake.

Attempts to improve angler access to Lake George will continue in cooperation with the Lake George Park Commission, local government, and other agencies. The DEC currently envisions the modernization of car top access facilities at Northwest Bay. Modernization of existing boat launching facilities on Lake George will be discussed in this unit plan.

d. Visual/Scenic Resources/Land Protection

There are increasing pressures on the larger open space areas in a rural landscape, such as those found in the LGWF. It is increasingly important to recognize the value of these areas to biodiversity and that recreation is steadily growing. To address these needs, it is necessary for New York State to work with local governments, private landowners, conservation organizations, and other interested parties to preserve the quality of life in communities throughout the LGWF. The natural landscape is an important recreational and scenic element of the LGWF, and affords a variety of open vistas and scenic views, each dramatic and diverse.

Author Lincoln Barnett summed it up best in his 1974 classic book, The Ancient Adirondacks, "...there are deep, silent forests, plunging ravines and gorges, tumbling waterfalls, still lakes, soaring mountains, and bird haunted wetlands."

One does not necessarily need to hike great distances to enjoy the beauty of the LGWF, although many of the most scenic vistas require a bit of travel on existing trails within the region. Excellent panoramic views of the Wild Forest may be seen from along Interstate Route 87,

which bisects the Lake George region from North to South. In addition, outstanding views of the rugged mountains can be observed from the shores of Lake George, the Hudson River, and other streams and wetland areas throughout the unit, such as the Dunham Marsh.

Local residents and visitors to the region favor many interior scenic viewpoints. A partial list includes the summits of the Prospect Mountain, Buck Mountain, French Point Mountain, Fifth Peak, First Peak, and Sleeping Beauty, to name a few.

B. Man-Made Facilities

An inventory of the campsites, trails and other designated and maintained facilities or improvements within the unit is provided below. In general, the condition of the features range from poor to good. Recommendations for improvements and repairs are provided in Section V of this UMP. See Appendix Thirteen for map detailing the extensive trail system in the Shelving Rock area.

On top of Black Mountain, an old firetower still remains that was originally constructed in the early 1900's to monitor forest fires in the area. The accompanying Observers cabin and Utility shed, that once existed on the summit, were taken down in 2005 and 2006. The NewYork State Police received permission around 1990 to construct a communications tower on top of the existing firetower to provide for better communications on the north end of Lake George. Along with the communication tower, a chain link fence and equipment shed now exist on the summit. This proposal was cited in the Black Mountain section, Lake George Wild Forest Plan, approved in April, 1986. See this section for information on “Firetower”and related communication equipment. This old firetower is not available for entry to the public or for viewing purposes.

Several Plaques and Monuments exist in the Lake George Wild Forest, these plaques and monuments are listed later in this section. This plan calls to leave these existing plaques and monuments in place and allow for their maintenance, but not to allow any new plaques or monuments to be erected in the Lake George Wild Forest.

Roads and Trails

Foot Trails	**Length (miles)**
Red Rock Bay Trail (another segment for snowmobile use)	1.3
Lapland Pond Foot Trail	0.5

Foot Trails	**Length (miles)**
Tongue Mountain Range Trail	7.1
Northwest Bay Trail	4.3
Five Mile Point Trail	1.8
Deer Leap Trail	1.0
Little Jabe Pond Trail	0.3
Unnamed Trail (Shelving Rock)	0.4
Hudson River Canoe Access Trails	3.5
Sleeping Beauty Mountain Trail	2.0
Black Mountain South Summit Trail	1.0
Fifth Peak Lean-To Trail	0.3
Buck Mountain Trail	2.9
Shelving Rock to Buck Mountain Trail	2.5
Inman Pond Spur Trail	0.5
Inman Pond Loop Trail	0.7
Shelving Rock Shoreline Connector Trail	0.8
Fish Brook Pond North Trail	0.4
Bear Slides trail	1.1
Total miles	**32.4**

Snowmobile Trails	**Length (miles)**
Northwest Bay Trail	0
Unnamed Trail (Shelving Rock)	0.4
Shelving Rock Mtn Trail	1.2
Shortway Trail	0.5
Sleeping Beauty Mtn. Trail	1.8

Fishbrook Pond Trail	0.9
Fishbrook Pond East Trail	0.2
Fishbrook Pond LG Trail	3.0
Greenland Pond Trail	1.0
South Bay Trail	1.0
Millman Pond Trail	2.2
Lapland Pond Trail	0.5
Black Mtn Pond Trail	2.3
Black Mtn Pond Snowmobile Trail	0.7
Black Mtn Summit Trail	2.5
Inman Pond Trail	3.5
Flybrook Trail	3.0
Grassville - Lilly Pond Trail	1.1
Round Pond Trail	1.3
Grassville Trail	0.3
Lilly Pond Trail	0.3
Bucks Camp Trail	1.8
Erebus North Slope Trail	1.2
Erebus South Slope Trail	3.6
Ridge Trail	1.8
Long Way Trail	2.0
Shelving Rock Ridge Trail	0.8
Buttermilk Pond Trail	0.8
Duck Pond Trail	0.7
Lake Shore Trail	0.8

Red Rock Bay Trail	1.9
Fishbrook Pond West Trail	0.5
Trail from Big Hollow Rd. to Viele Pond Rd.	1.2
West Old Farm Trail	0.5
Lily to Island Pond Trail	1.3
Island Pond Trail	0.4
Long Pond Trail	1.1
Padanarum Spur Trail	0.4
Palmer Pond Trail	1.6
Palmer Pond E. Trail	0.6
Shelving Rock Bay Trail	1.9
Erebus Mount- Longway Trail	0.2
Second Ridge Spur Trail	0.3
Putnam Station (Rt 3 parcel)-Town of Putnam	1.0
Connector to Lake Shoreline Trail (from Shelving Rock Mtn area)	0
TOTAL	**54.1**

Administrative Roads	**Length (miles)**
Spruce Prospect Tower Road	0.4
Dam Access Road (Shelving Rock)	0.2
Palmer Pond Road	1.5
Big Hollow Road	.8
Old Farm Road	1.0
To SR Road	0.9
Total	**4.8**

Spruce Prospect Tower Road

Width (range): 8-12 feet

Surface: crushed stone, dirt, asphalt

Condition: fair to poor

Dam Access Road

Width (range): 7-11 feet

Surface: Mainly dirt, some rock

Condition: Fair

Palmer Pond Road

Width (range): 10 - 16

Surface: gravel, dirt

Condition:fair, section underwater at pond

Big Hollow Road

Width (range): 8- 16

Surface: Large cobbles, boulders, gravel

Condition: poor

Old Farm Road

Width (range): 8-10 feet

Surface: Dirt

Condition: Fair

To SR Road

Width (range): 8-11 feet

Surface: dirt

Condition: Fair

Motor Vehicle Roads	**Length (miles)**
Road SW of Pike Brook Trailhead*	0.9
Lily Pond Road *	2.2
Buttermilk Road *†	2.1
Dacy Clearing Road*	1.5
Gay Pond Road*	3.8
Gay Pond north spur	0.3
Pike's Beach access road	0.3
Scofield Flats access road	0.1
Jabe Pond Road*	0.1
Total	**11.3**

* Road also designated for snowmobile use

† including 1.6 miles open to public by court order (ADA)

Road SW of Pike Brook Road

Width (range): 13-14 feet

Surface: gravel

Condition: good

Lily Pond Road

Width (range): 14-19 feet

Surface: crushed stone

Condition: fair

Buttermilk Road

Width (range): 16-22 feet

Surface: dirt, some crushed stone

Condition: poor to fair

Dacy Clearing Road

Width (range):12-14 feet

Surface: Gravel

Condition: Good

Gay Pond Road

Width (range): 14-20 feet

Surface: dirt, some crushed stone

Condition: fair

Gay Pond north spur

Width (range): 8-12 feet

Surface: dirt

Condition: fair

Pike's Beach access road

Width (range): 8-16 feet

Surface: sandy soil

Condition: poor

Scofield Flats access road

Width (range): 8-12

Surface: sandy soil

Condition: poor

Jabe Pond Road

Width (range): 10 - 16 feet

Surface: gravel, bedrock, dirt

Condition: fair during dry season

Parking Lots	**Capacity**
Upper Hogtown	30
Lower Hogtown	10
Dacy Clearing	10
Pike Brook Road (Black Mountain)	8
Pilot Knob Road (Buck Mountain)	30
Clay Meadows	8
Clay Meadows (Spillover)	8
Tongue Mountain Trail (Deer Leap)	6
Inman Pond	3
Old CCC Camp (Rte. 9N)	2
Bolton Parcel (Former LG Conservancy)	4
Northwest Bay Water Access	8
Jabe Pond	10
Warren County Hudson River canoe access & walking trails	40
Bear Slides/Darling's Ford (Hudson River Special Mgt Area)	6
Buttermilk Rd & Gay Pond Rd (Hudson River Special Mgt Area)	4
Pike's Beach (Hudson River Special Mgt Area)	4
Scofield Flats (Hudson River Special Mgt Area)	4
the "Pines" (Hudson River Special Mgt Area)	4
Alma Farm Park (paved)	2
Total	**201**

Designated Campsites	**Number**
Dacy Clearing	3 (2 are directly accessed via motor vehicle)
Dacy Clearing Road	4
Shelving Rock Road	5
Jabe Pond	2
Black Mountain Ponds	1
LG Narrows Shoreline (East Side)	1
Deer Leap	2
Lily Pond	2 (1 directly accessed via motor vehicle)
Buttermilk Road	1
Round Pond	1
Tongue Mountain Point	1
Long Pond	4
Fishbrook Pond	1
Bumps Pond	1
Lapland Pond	1
Hudson River Special Mgt. Area	16
Inman Pond	2
Total	**48**

Lean Tos	**Number**
Black Mountain Pond	1
Fishbrook Pond	2
Lapland Pond	1
Greenland Pond	1
Fifth Peak	1

Five Mile Mountain	1
Millman Pond	1
Total	**8**

Pit Privies	**Number**
Five Mile Mountain (at lean-to)	1
Dacy Clearing Road	7
Shelving Rock Road	5
Fishbrook Pond	2
Shelving Rock Bay Area	3
Lapland Pond	1
Fifth Peak	1
Hudson River Special Mgt. Area	15
Alma Farm Park Picnic Area	2
Total	**37**

Picnic Areas	**Description**
Alma Farm Park	3 tables, 3 fireplace units

Trail Registers	**Number**
Rt. 9N Tongue Mountain Trail (Deer Leap)	1
Clay Meadows	1

Pike Brook Road (Black Mountain)	1
Prospect Mountain	1
Montcalm Point	1
Pilot Knob	1
Hogtown Parking lot	1
Northwest Bay Parcel (former LG Conservancy)	1
Total	**8**

Buildings

Flat Rock Parcel Building (Anthony Nose)

Gates	**Number**
Dacy Clearing Road	3
Shelving Rock Road	4
Tongue Mountain Range Trail	2
Lily Pond Area	3
Jabe Pond	2
Hudson River Special Mgt. Area	3
Total	**17**

Man-Made Impoundments	**Surface Area**
Gage Brook Reservoir	0.2 acres
Shelving Rock Reservoir	0.4 acres
Hubbell Reservoir	0.2 acres

Bridges - Type	Location	Quantity
Foot	Dam Access Road	1
Foot	Fishbrook Pond	1
Foot	Erebus South Slope Trail	1
Foot	Black Mountain Pond Trail	3
Foot	Millman Pond Trail	1
Foot	Northwest Bay Trail	5
Foot	Five Mile Point Trail	3

Bridges - Type	Location	Quantity
Snowmobile	Shelving Rock Bay Trail	1
Snowmobile	To Shelving Rock Road	2
Snowmobile	Unnamed Trail	1
Snowmobile	Shelving Rock Mountain Trail	4
Snowmobile	Shortway Trail	3
Snowmobile	Erebus South Slope Trail	3
Snowmobile	Flybrook Trail	1
Snowmobile	Round Pond Trail	1
Snowmobile	Gay Pond Road	1
Vehicle	Buttermilk Road	1
Horse	Long Way Trail	1

Firetower	Specifications	Associated Facilities
Black Mountain	41 foot firetower with 39 foot antenna on top of cab.	Equipment shed surrounded with chainlink fence, 39 foot SWECS for electrical energy, helicopter landing pad (on open rock)

Horse Mounting Platforms

Upper Hogtown parking lot

Dacy Clearing

Plaques and Monuments	Description
Mormon Rock plaque	Metal plaque located along NW Bay Brook near CCC camp. Plaque reads: "MORMON ROCK" HERE CONVERTS WERE BAPTIZED INTO THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS AFTER HEARING THE GLAD TIDINGS OF THE EVERLASTING GOSPEL.
Franchesca monument	Engraved stone monument located on OSI property uphill from campsite number six.

C. Cultural Resources

Unlike many regions of the Adirondack Mountains where the terrain was too rugged for permanent settlement, and occasional hunters and travelers passed though but left little trace, the vicinity of Lake George supported Native American camps and villages for thousands of years and was also part of a major historic transportation route formed by the Hudson River, Lake George, and Lake Champlain. It was along this route that Samuel Champlain traveled to his first encounter with the Iroquois several months before Henry Hudson made his first voyage up the river that bears his name. These early historic events foreshadowed the conflicts that

characterized the Lake George region for the next 150 years culminating in the French and Indian War, in which this historic valley corridor was a major battleground. In the 19th century, the Lake George region supplied raw materials, such as lumber and iron, and became known as a prime vacation area, which attracts even more tourists today.

The following sections discuss the precontact and historical occupation of the Lake George unit. The section concludes with an inventory of archeological sites within the unit. Some of the sites from the inventory are referenced in the following archeological and historical overviews. They are listed with an abbreviation of their USGS quadrangle location followed by their site number so they can be located in the inventory table.

Precontact Background

The Lake George Region contains sites that date to all major periods of precontact occupation. There are a few traces near Lake George of the Paleo-Indians, the earliest people known to inhabit the North American continent who migrated from Siberia into Alaska. Archeological evidence suggests that the spread from the West Coast into the Northeast took place over a very short period of time. In the Northeast, evidence of Paleo-Indians is scattered. These highly mobile hunters traveled in small bands. Sojourns of Paleo-Indians hinged upon seasonal migration patterns of now extinct, large mammals, such as mammoth, mastodont, and bison (Funk 1976:209-211). Rock shelters were used as a temporary escape from the cold environment. One rock shelter in the Lake George unit, Wormwood Cave (Quad TG Sites 5814 and A113-11-000033), has been reported, and it is likely that more exist in the nearby mountains. Wormwood Cave was used in the early historic period and was also likely inhabited prior to European contact. There is little evidence of which precontact cultures occupied the shelter, it is likely that rock shelters near Lake George were used occasionally by Paleo-Indians. Additionally, one isolated fluted projectile point from a Paleo-Indian hunter was reported (Quad T Site 7325). Paleo-Indian sites can be as old as 12,000 to 11,000 B.C. (Funk 1976:212).

Like the Paleo-Indian complexes, there is generally sparse evidence of Early and Middle Archaic precontact occupation in New York (8000 to 4000 B.C.). These Native Americans were likely highly mobile. However, megafauna were extinct by this time, and a change in subsistence practices was needed for survival. The megafauna extinction was accompanied by vast ecological changes from conifer-dominated forest to mixed forest environments (Ritchie and Funk 1973:8). Early and Middle Archaic people took advantage of the new environment through hunting, gathering, and fishing. A few early and middle archaic sites have been reported near Lake George. They consist primarily of camps left behind by these highly mobile people. Three sites in the Lake George unit included projectile points with bifurcated bases, which are diagnostic of the Early Archaic (Quad LG Sites A113-08-0054, 1359, and 8887). These points are more commonly found south of New York, although they are not uncommon in the Hudson Valley (Funk 1976:233). The presence of these points near Lake George likely indicates that Archaic hunters and gatherers used the travel route formed by the lakes and Hudson River.

The Late Archaic period is generally thought to begin at 4500 B.C. with the emergence of Otter Creek point types and similar side-notched projectiles (Ritchie and Funk 1973:iv). Dr. Funk refers to the Otter Creek or Vergennes manifestation as the base for the classic Laurentian stone tool tradition. The Laurentian is postulated to have originated within the Laurentian boreal forest's provenience of the Upper Great Lakes and St. Lawrence Valley. This tradition is characterized by stone tools, such as the plummet, gouge, bannerstones (atlatl weights), ground slate implements made into points, semilunar knives or ulus, and chipped stone ulus (Ritchie 1969:79). Several sites in the Lake George region, especially the Harrisena site (Quad LG Site 5076), contain tools from this tradition.

During the time of the Laurentian tradition (4500-2000 B.C.), the dominant forest cover consisted of mixed oak and hemlock woodland. The resources available to Archaic hunters and gatherers became more plentiful during this time especially in the Mohawk and Upper Hudson Valleys. Between 2500 and 2000 B.C., Archaic groups began to shift the focus of settlement from the mixed forest regions of the valleys to the lower river plains. Ritchie terms this change in habitation practice the River phase (Ritchie 1969:125-132). During the River phase, settlements increased in size, but the subsistence economy was still largely fueled by hunting and fishing. However, evidence for the procurement of wild plant foods is also more prevalent. The Pickle Hill sites (Quad LG Sites A113-08-0058 and A113-08-0008) are sites in the Lake George unit with River phase components.

Significant cultural changes during the Late Archaic period include the emergence of mortuary ritualism, cemeteries, steatite bowls, and a shift from plain utilitarian artifacts to objects with ornamentation, such as effigy pestles, birdstones, and stone gorgets. These changes not only mark the termination of the Late Archaic but also are carried through the Transitional stage into Woodland times. The Woodland period (1500 B.C.-A.D.1600) is the best-documented and most understood precontact period. It has been divided into the Early, Middle, and Late Woodland phases based on changes in subsistence, settlement duration, and cultural organization (Ritchie and Funk 1973:96).

The eventual replacement of soapstone pots (steatite) by pottery signifies the beginning of the Early Woodland (1500-500 B.C.). The influx of native copper artifacts from the Illinois and Ohio Valleys is the earliest aboriginal trade route recognized in the New York pre-contact period. Subsistence patterns of Early Woodland cultures are not considerably different from those of the Late Archaic. The economy was still largely dependent on hunting and gathering accompanied by a greater emphasis on fishing. Early Woodland sites are concentrated on low-lying areas along small inland streams and major drainage systems. The use of storage pits and small cemeteries suggests populations were beginning to establish fixed settlement areas (Funk 1976:310).

The Early Woodland is divided into two phases: Meadowwood and Middlesex. Although distributed throughout all of New York State, the focus of Meadowwood settlement was western New York. The Meadowwood phase is represented by thin triangular-bladed, side-notched

projectile points usually made of Western Onondaga flint. Caches of triangular blades are phenomena of the Meadowwood Phase, which may have been of ritual or spiritual significance (Ritchie and Funk 1973:346).

The Middlesex phase has strong ties to the Adena culture of the Ohio Valley. The Middlesex phase may represent groups that split from the original Adena cultures of the Ohio Valley and spread northeast. Stone tools of the Middlesex Phase are largely produced from materials of the Ohio Valley. However, the farther this group migrated into New York State, the more frequently they used local lithic materials.

Technological advances in pottery and its increased use are exhibited during the beginning of the Middle Woodland period (A.D. 100-1000). In addition, the early stages of agriculture are manifest during this time (A.D. 800). Subsequently, the size of Middle Woodland settlements increased, and they became more sedentary. The Hunter's Home phase occurred in the late Middle Woodland period and was characterized by more elaborate ceramic decoration, the increased use of pipes with a straight or slightly bent obtuse-angle elbow form, and the ascendancy of the broad, triangular projectile point of the Levanna type (Ritchie 1969:254). The beginnings of the Late Woodland Owasco tradition were evident in the settlement pattern, burials, and artifacts of this period (Ritchie and Funk 1973:355). Trade in exotic goods with Hopewell and Adena cultures was discontinued during the Middle Woodland, possibly an effect of increased local food surplus (Ritchie and Funk 1973:154).

During the Late Woodland period, the most substantial change in settlement and subsistence occurred with the emergence of large fortified villages, agriculture, and mass population expansion throughout the Mohawk and Hudson Valleys. There were two culture traditions in the Late Woodland: Owasco (A.D. 1000-1400) and Iroquois (A.D. 1400-Contact). Each tradition is characterized by specific ceramic styles (Ritchie and Funk 1973:165).

In the Lake George Unit, Middle Woodland sites are common, whereas Late Woodland sites occur less frequently, and Early Woodland sites are generally rare.

Historic Background

The earliest contact between Native Americans and Europeans in New York State occurred toward the southern end of the western shore of Lake Champlain. Although the exact location of the historic battle that took place is contested, it is likely that it was within the Lake George unit, and the Gourlie Point Battle Site (Quad T Site A115-14-0003) has been reported as a possible location of this meeting. In July 1609, Champlain entered the lake that he named and still bears his name with two European companions and a party of Hurons and Montagnais by canoe. They

were headed along a route up the outlet of Lake George and into the lake itself. However, at a place near Ticonderoga, they encountered an Iroquois war party. During the ensuing battle, Champlain loaded four balls into his arquebus and killed two Iroquois leaders and mortally wounded another. One of his European companions also fired a mortal shot. According to Champlain's journal, "the Iroquois were greatly astonished seeing two men killed so instantaneously, notwithstanding they were provided with arrow proof (wooden) armor." Although greatly outnumbered, the Huron were victorious during this battle (Smith 1981:52-54). However, the Iroquois would not take their defeat lightly, and Champlain had made a dangerous enemy for France.

This early encounter foreshadowed the wars that would be fought in the valleys of northern New York until the final expulsion of French forces in the 1750s. During the same summer of Champlain's encounter, Henry Hudson sailed up the river that bears his name and soon after, the Dutch began settlement in the region. In 1664, the British took control of New Netherland and renamed it New York. Two of the greatest colonial powers were pitted against each other across the wild lands surrounding Lake George and Lake Champlain. The next century was characterized by skirmishes between the French and British, especially during Queen Anne's War and King George's War. However, the most violent and decisive of the confrontations was the French and Indian War of the 1750s during which the Lake George area witnessed much of the fighting. Since 1731, France's southernmost outpost was Fort St. Frederick at Crown Point. In 1755, Fort Edward was built at the site of the earlier Fort Lydius on the Hudson River at the beginning of the northern portage. The fort was constructed as part of a British campaign to attack Fort St. Frederick. As British troops moved northward, French forces moved in to seize the fort that was still under construction. The two forces met at the southern end of Lake George and the battle resulted in a French retreat. Afterward, the British began building Fort William Henry near the battle site and the French began work on Fort Carillon, which would later be called Ticonderoga. Both of these forts have been reconstructed and are listed on the National Register of Historic Places (Quad LG Site A113-41-0002 and Quad T Site A031-15-0002, respectively).

In 1757, French forces assailed Fort William Henry and the fighting ended in the massacre of British troops stationed there. The French did not occupy the fort and returned northward after the battle instead of assailing Fort Edward and Albany. In 1758, General Abercrombie led British forces against Fort Carillon and failed. The second attack by the British led by Amherst in 1759 did not fail. During their retreat, French forces destroyed Fort St. Frederick to keep it from British hands. The war continued a little longer, but the French had suffered a major defeat by losing access to the corridor comprised of Lake Champlain, Lake George, and the Hudson River (Hamilton 1995).

Many archeological sites remain from these historic battles within the Lake George unit including French General Montcalm's trenches near Fort William Henry (Quad LG Site A113-41-0007), and traces of camps made by General Abercrombie's and Amherst's troops (Quad LG Site A113-02-000033 and Quad SB Site A0113-04-0004).

Although the French were defeated, these battles were not the last that took place near Lake George. In 1775, when the Revolution was still unofficial, both British and revolutionary leaders realized the strategic importance of the location of Fort Ticonderoga, which had been left in place but was in disrepair. The revolutionaries struck before the British could reinforce their occupation of the fort. On May 1775, Ethan Allan and Benedict Arnold captured the fort with a small force and little bloodshed. The revolutionary forces soon captured the small garrison at the ruins of the fort at Crown Point and the only British sloop on the lake. The control of the lake opened the door for American forces to invade Canada late in 1775. During this time, the corridor was used to send supplies from Albany through Lake George, to Fort Ticonderoga and northward to American forces. In 1776, the invasion of Canada had failed and Americans prepared for a British attack from Lake Champlain by building a fleet to defend the lake from the British ships amassing on the northern shores of the lake. Although the Americans were defeated at the following battle of Valcour Island in Lake Champlain, the time lost in preparation for the war on the lake caused the British to delay their attack on New York for a year and eventually cost them the war. In 1777, British forces took Fort Ticonderoga without a fight because of their occupation on the strategic summit of Mount Defiance. However, once they had advanced southward, supply routes were cut off whereas American forces were swollen from recent volunteers. The British began to fare worse and worse in battle leading to their surrender at Saratoga (Hamilton 1995).

The end of the wars in the lake valleys paved the way for permanent settlement. The Adirondacks offered raw materials, such as lumber and iron, and gristmills and forges became common. Several archeological sites from iron mines, forges and mills have been reported in the Lake George region.

Lumbering began along the upper Hudson in the early 19th century. Although some small mills were set up near lumber sources, river driving was employed to convey the logs to larger mills downstream. Logs could also be moved across lakes, although they had to be bound and towed. Wind could aid the movement of logs across a lake, but it could also push the logs in the wrong direction. Log driving also irritated shoreline landowners, who objected to the practice and as a result, some rivers were declared public highways (Donaldson 1977:151-152). To avoid the losses caused by particularly large spring floods, a system of booms and piers was built by the Hudson River Boom Association comprised of both millers and log owners. The largest boom system was constructed above Glens Falls, which was the home of many lumber mills. The number of logs that passed the boom was recorded yearly and the number was in the 300,000s in the 1850s and grew to the 500,000s in the 1870s. In 1872, over one million logs passed from the Adirondacks to Glens Falls (Smith 1885:201-203).

Although river driving was the cheapest mode of transportation for timber, the construction of railroads in the Adirondacks in the 1860s allowed for the transportation of heavy hardwoods that would not readily float. Many lumbering companies developed their own rail lines. Lake George and Warrensburg were both served by railroads for lumber transportation (Kudish

1996:30-37). Railroads were also necessary for transporting mined materials, such as iron, gravel, and sand (Kudish 1996:54,58).

In addition to railroads, transportation occurred via steamboats and other vessels that plied the waters of Lake George in the 19th century. Many shipwrecks have been reported as archeological sites.

Another industry that grew during the 19th century and continues to flourish in the Adirondacks is tourism. The mountains, forests, and lakes drew people who enjoyed the views, hiking, and hunting. Large, scenic hotels were built in the 19th century to accommodate the tourists. Archeological remains of two 19th century hotels have been reported (Quad LG Sites A113-08-0060 and A113-41-000022). Both environmental and historical tourism, the latter especially in the Lake George area, remain leading industries in the Adirondacks today.

In reaction to the deforestation and other destruction caused by lumbering, tanning, hunting, and mining in the early and mid-19th century, the New York State Adirondack Forest Preserve was created in 1885 and the Adirondack Park was created in 1892. In 1894, Article XIV was added to the state constitution to prevent lumbering and development in the preserve (VanValkenburgh 1996:3).

The Alma Farm was a historic farm located on part of what is now part of the Lake George Wild Forest. The Farm was owned by Theodore Meyer for a number of years and was a model stock farm known throughout northern New York State for the quality of its produce and stock. The Alma Farm was generally regarded as one of the best, if not the best farms in Warren County at one time sporting a nationally known herd of registered Jerseys. The farm consisted of approximately 1,000 acres located 8 miles north of Bolton Landing. The breakdown of the farm was as follows: 120 acres of rich tillable land, 70 acres of shaded pasture, 40 acres of swamp and brush lands, and 770 acres of timber land. The farm produced an abundance of fine hay, oats, corn, buckwheat, potatoes, and garden truck and dairy products. There were two large sugar maple orchards that produced maple syrup and an apiary that supplied honey. Buildings on this farm consisted of a 30-room farmhouse, a 31' X 70' horse barn, a 40' X 140' cow barn, one small tool house, one ice house, and pig pens etc. The farm, after being in the Meyer family for approximately 50 years, was sold to the State in 1926. The old farm land also played an integral part in the local history of the Civilian Conservation Corps. (Taken from Mrs. Theodore F. H. Meyer's flyer believed to have been written between 1915 and 1920).

History of the Lake George Wild Forest and surrounding area was also shaped in a unique and huge part by the Civilian Conservation Corps (CCC). The Civilian Conservation Corps beginning in 1933 was the national answer to many problems of the day. Frank Leonbruno describes the time:

"The 1932 Presidential election was more a cry for help from a desperate people near panic as it was an election in a "landslide" vote, the nation turned to Franklin Delano Roosevelt and the

Democratic party searching for an end to the rampant unemployment and economic chaos that gripped the country. They weren't disappointed. Accepting the Presidential nomination on July 1, 1932, New York Governor Roosevelt planned a fight against soil erosion and declining timber resources, utilizing the unemployed of large urban areas.

“Professional foresters and interested layman raised these aims. In what would later be called "The Hundred Days," President Roosevelt revitalized the faith of the nation with several measures, one of which was the Emergency Conservation Work (ECW) Act, more commonly known as the Civilian Conservation Corps. With this action, he brought together two wasted resources, the young men and the land, in an effort to save both.

“The President wasted no time: He called the 73rd Congress into Emergency Session on March 9, 1933, to hear and authorize his program. He proposed to recruit thousands of unemployed young men, enroll them in a peacetime army, and send them into battle against destruction and erosion of our natural resources. Before it was over, over three million young men engaged in a massive salvage operation, the most popular experiment of the New Deal.

“The program had great public support. Young men flocked to enroll. A poll of Republicans supported it by 67 percent, and another 95 percent of Californians were for it. Colonel McCormick, publisher of the Chicago Tribune, and an implacable hater of Roosevelt, gave the CCC his support. The Soviet Union praised the program, perhaps it saw a touch of socialism. A Chicago judge thought the CCC was largely responsible for a 55 percent reduction in crime by the young men of that day.

“By April 1934, the Corps, now on a firm foundation, faced the beginning of its second year with near universal approval and praise of the country. This young, inexperienced $30-a-month labor battalion had met and exceeded all expectations. The impact of mandatory, monthly $25.00 allotment checks to families was felt in the economy of the cities and towns all across the nation. More than $72,000,000 in allotments was making life a little easier for the people at home. In communities close to the camps, local purchases averaging about $5,000 monthly staved off failure of many small businesses. The man on the radio could, for a change, say, "There's good news tonight."

“News from the camps was welcome and good. The enrollees were working hard, eating hearty and gaining weight, while they improved millions of acres of federal and state lands, and parks. New roads were built, telephone lines strung and the first of billions of trees that would be planted had gone into the soil. CCC enrollees throughout the country were credited with renewing the nation's decimated forests by planting an estimated three billion trees from 1933 to 1942. (CCC website: http://www.cccalumni.org/about.html

“One New York Camp, S-82, 204th Company, was located 7 miles north of Bolton Landing New York and was in existence from 1933 - 1942. The camp was located on the site of a 1,000 acre farm owned by Theodore and Helene Meyer, from 1874 - 1925.

"The site of the camp was known as the Burgess Farm. A group of 28 men arrived at this camp on May 23rd, 1933, and set up a tent campsite in the Alma Farm Area. Another 161 men arrived on May 27th, and the entire group spent the summer under canvas.

"On Thanksgiving Day, 1933, the permanent camp was occupied for the first time. The first meal in the new mess hall was served on that Thanksgiving Day, and, of course, it was turkey with all the trimmings.

"Work projects at Bolton consisted of the preservation and protection of the environment in the counties of Warren, Essex and Washington, blister rust control, work projects in area parks and campsites, namely Hearthstone, Fort George Battleground, Rogers Rock, Eagle Point and stream improvement which provided the vicinity of Lake George with dams and breeding pools for various fish."

"On the first day at camp we had our first meal - spaghetti - and then a physical exam by camp doctor, Joseph Merin. The doctor gave us an inoculation in the arm. I don't recall that any enrollees failed that physical exam. After our physical exams, we were taken to the supply room where we received blankets, articles of clothing, long johns, socks, rubber overshoes, toilet articles, hats, gloves, and a mess kit and cup. Later on mess kits were no longer issued and we actually ate off dinner plates.

"Our first few days were devoted to scouting for Gypsy Moths which, in reality, were not present at that time. (They did appear in our area at a later date.) These moths would defoliate hardwood trees causing them to die. About two years later, actual gypsy moths did appear, defoliating hardwood trees in the West Hague area. The larva were destroyed by applying creosote. The identification of trees with Blister Rust was another job. Currents of air would carry pollen onto white pine trees causing a disease called "Blister Rust." Trees with this disease would eventually perish and all we could do was to cut them down. Finding Blister Rust victims was not exactly a top priority job for the boys, but it filled many hours that might otherwise have been idle time. The same crew looked for gooseberry and currant bushes during the summer months.

"Other work crews worked in the parks and campsites in the area, namely Hearthstone, Fort George Battleground Park, Eagle Point and the Lake George island camping and day use areas. New cabins were built at Hearthstone, Glen Island and Roger's Rock. Actually, the Roger's Rock campsite was completely built and developed by the CCC camp at Bolton. All buildings at Glen Island were built by CCC personnel including the ranger station with two living quarters and a post office. The commissary, a workshop and storage area, an ice house and a shed. The Glen Island crew was the envy of all the work crews. They were, indeed, the most skilled crew, acting as carpenters, masons and plumbers. Another attraction which made service on the Glen Island crew attractive was the 3 mile water trip, each way, to and from Glen Island. This was a time-consuming trip, but the results of the expertise of this crew made the entire project a success.

"Other crews worked on stream improvement in the vicinity of Lake George, trout streams and brooks were cleaned, rip-rapped and dammed to provide breeding pools. Even today, some remnants of logs across streams are visible.

"Although other services provided by CCCs were not done on a daily basis, emergencies did arise which required our immediate response: we assisted in the search for lost persons. We fought forest fires. We responded to floods where roads were washed out, and we assisted local highway departments when country roads were blocked by snow too heavy to be moved by local snow plows, turning out with shovels to clear the way. We did it the hard way, and the locals appreciated our efforts.

"The Army built and ran the camps, which normally included four barracks with 40-50 men in each, along with several other buildings. In our camp at Bolton, over 20 buildings of various types were constructed. These buildings included four barracks, a mess hall, an infirmary, living quarters for officers and technical personnel, a rec hall and canteen, an educational and library building, a latrine and shower facility, a garage for Army trucks and a garage for trucks transporting men to their field work. These trucks transported or trudged the men to work each morning, at which point the Army bowed out and, most often, the U.S. Forest Service took over. Civilian foremen and "Local Experienced Men," called LEMs, ran the work crews.

"Most of the work was manual labor. The tools were shovels, mattocks, sledge hammers, double - edged axes and crosscut saws. At the Bolton camp, these same tools were used on state - owned campsites. The work here was consistent with the maintenance needed at these campsites.

"According to statistical data compiled by the agency, the average CCC enrollee who stayed in camp for nine months had gained from 12 to 30 pounds and ½" in height during his tour. He had finished the eighth grade, had no regular job prior to the CCC and had 3-4 family members dependent on his paycheck."

"On August 12, 1997 a dedication ceremony was held at the Alma Farm Park where a sign was installed, commemorating the 1,000 acre homestead site and its subsequent role, under New York State Ownership, as a Depression Era site of the Civilian Conservation Corps. Nine former members of the Bolton CCC Camp attended this ceremony and were photographed beneath the sign which read:

"The Alma Farm Park
Site of the 1000 acre farm owned by
Theodore and Helene Meyer, 1874-1925.
Site of the Civilian Conservation Corps Camp S-82
and plantations 1933-1941.
In memory of the Alma Farm
and those who loved it."

The Alma Farm Park was the summer home site of Theodore Meyer, owner of the Alma Farm. Through review of historical documents and conversation with the Town of Bolton Historian, it appears that the site has been informally used over the years as a picnic area. The dedication ceremony performed in 1997 honored the CCC, the historic Alma Farm, and the Meyer family and placed a formal picnic setting at this place. The picnic area is complete with the above mentioned sign, 3 picnic tables, 3 fireplace units consisting of: 1 concrete fireplace, 1 metal grill unit, and 1 metal fire ring unit. 2 privies are located in the woods behind the picnic area. The concrete remains of a spring house are located at this picnic area, reported as flowing in 1999. The road widens into a small paved parking area at the picnic location allowing parking for approximately 2 cars and a wooden rail separates the picnic area from the parking area. This small picnic area is mowed and provides an ideal location to rest and enjoy the surroundings. This picnic area will be officially adopted as part of this Unit Management Plan. The metal fire ring and metal grill located at this picnic area may need to be replaced with a different type of fireplace unit; APA will be consulted on this matter. This site may also be upgraded to allow improved accessibility for persons with disabilities. Any upgrades of this nature will be done with APA consultation.

Archeological and Historic Resources

The Adirondack Park contains numerous cultural resources related to its long history and precontact occupation. Management of these cultural resources is mandated by Section 106 of the National Historic Preservation Act, Section 14.09 of the State Historic Preservation Act, and the State Environmental Quality Review Act. Therefore, the presence of cultural resources in the Unit will have consequences on management strategies, especially when development is concerned. Additionally, historical tourism based on these resources is an important industry in the Lake George region because of the wealth of historic places. Also, the degree of use throughout the park not only effects the ecology and natural environment, but can effect the cultural resources present. It is important to find a balance between using cultural resources to attract tourists and educate people about the past and losing the resources because of poorly planned development and other problems, such as looting of known sites by collectors and divers.

Cultural resources generally consist of existing structures or archeological sites. Resources are considered National Register Eligible if they meet specific criteria that indicate their importance to history or prehistory as determined by the Office of Parks, Recreation and Historic Preservation (OPRHP). The Adirondack Forest Preserve was listed as a National Historic Landmark by the National Park Service in 1963. It is therefore automatically listed in the State and National Registers of Historic Places.

An inventory of archeological sites within the LGWF has been compiled from the site files of the New York State Museum (NYSM) and the Office of Parks, Recreation and Historic Preservation. Theses two site file sources occasionally overlap but generally contain different

listings. The site inventories can not be considered complete since no systematic archeological survey has been conducted within the entire Unit. Some sites were discovered by relatively small systematic surveys. Others were reported by collectors, historians, 19th-century accounts, and early 20th-century archeologists. Therefore, there is a wide range in the accuracy of the descriptions and locations. Certainly many other sites lie undetected in the Adirondack Park. The inventory provides information about the types of resources that are present in the unit to provide additional historic background and an estimation of the resources that may have to be managed in the future.

A list of the known archeological sites in the LGWF is provided in Appendix Ten. Sites with four digit numbers were listed in the NYSM site files and sites with longer numbers starting with "A" were listed in the OPRHP files. These two sources are not identical but there is some overlap. For example, in 1985, Hartgen Archeological Associates (HAA, Inc.) was retained by the OPRHP to provide a cultural resources inventory for the Adirondacks. Existing NYSM files were submitted to the OPRHP for inclusion in their database during the project. Whenever an OPRHP site is a duplicate of a NYSM site, the NYSM site number is listed next to the site name. The sites are in order by the USGS Quadrangles in which they are located. The quadrangles are abbreviated with the first letters of each word in the title and include *Bolton Landing, Lake George, Lake Luzerne, Putnam, Putnam Mountain, Shelving Rock, Silver Bay, The Glen, Ticonderoga,* and *Warrensburg*. Site reporters generally include state archeologists, archeological consultants, and academic archeologists. The occupation period of historic sites is given in years and the precontact periods have been abbreviated with PI for Paleo-Indian, A for Archaic, W for Woodland, PC for general precontact, H for historic, and E, M, and L for early, middle and late, respectively. Whenever possible, the precontact phase, indicating a more specific culture and date, is listed. The description lists additional information that generally includes a list of cultural materials associated with each site.

Some examples of more visible historic remains that exist in the Lake George Wild Forest Unit include: chimney remains at Bumps Pond, chimney remains on Chimney Island in Jabe Pond, and chimney remains at the old CCC camp. These remains are somewhat easier to stumble across than many of the foundations and remains scattered throughout the unit. These remains are no longer in use and present an interesting curiosity for the typical wild forest user. The DEC intends to leave these historic remains intact.

D. Economic Component

Besides its many intrinsic values relative to watershed protection, preservation of wildlife and natural habitats, and outdoor recreation, the state lands in this area are an important asset to local and regional economies. These lands are an attraction to tourists and local users. Maintenance of their natural setting has a positive influence on private land values.

A direct economic benefit is the amount of land and school taxes paid to local governments for forest preserve lands. Pursuant to Real Property Tax Law §532(a), the People of the State of

New York pay all local taxes on forest preserve lands. This is especially significant because state lands do not require the same infrastructure, government goods and services demanded by the private sector. The state government pays the same taxes on unimproved forest lands as private landowners do. State lands are assessed by local assessors and subject to review by the New York State Office of Real Property Services (formerly the State Board of Equalization and Assessment).

Tax payments for forest preserve lands in all the representative towns of the LGWF are paid to the County Treasurer's offices of Warren, Washington and Essex counties who disburses payment to the towns. Real property values and assessments are determined by local assessors based on comparable values of similar lands in each town.

Table 2. 2004 Land and School Taxes Paid on Forest Preserve Lands to towns of the LGWF. Representative Forest Preserve acres in towns may not be located entirely within the LGWF.

Town	**Forest Preserve Acres in Town**	**Land & School Taxes Paid ($)**	**Ave. Tax/Acre ($)**
Queensbury	1,370	$28,550	$20.80
Horicon	10,000	$87,376	$8.70
Warrensburg	5,588	$59,780	$10.70
Lake George	1,405	$77,311	$55.00
Bolton	10,336	$666,899	$64.50
Chester	1,995	$66,030	$33.00
Hague	23,894	$401,468	$16.80
Lake Luzerne	1,853	$66,415	$35.80
Fort Ann	10,410	$409,538	$39.30
Dresden	10,739	$389,948	$37.50
Putnam	244	$122,805	$503.30
Ticonderoga	15,000	$320,010	$21.30
Totals:	**92,834**	**$2,696,130**	
AVERAGE:			**$70.56**

E. Public Use

The variable terrain of the LGWF allows for a variety of recreational uses. Most trails in the unit are used by a variety of recreationist including those interested in hunting, fishing, hiking, skiing, snowmobiling, bicycling and snowshoeing.

Focusing on hiking as an example, a fit hiker seeking a strenuous hike could traverse the peaks of the Tongue Mountain Range in a single day. On the other hand the less fit hiker, or a family with small children could manage the less strenuous hike to the scenic vistas offered by the summit of Sleeping Beauty, making the round trip in less than a day's time.

The unit offers extensive opportunities for camping and backpacking. Overnight use is popular in the vicinity of Black Mountain and its adjacent ponds, the Hudson River Special Management Area, Shelving Rock, and Jabe Pond. Trailhead registers at Clay Meadows (Tongue Mountain Range) Pike Brook Road (Black Mountain area), the Hogtown Parking Lot (Shelving Rock Mt., and Sleeping Beauty Mt.) and Jabe Pond indicate that the majority of interior Wild Forest users begin their overnight trips from these points of entry.

The DEC monitors trail use by voluntary registration. Trail registers are located at the following trailheads: Buck Mountain, Prospect Mountain, Clay Meadow, Inman Pond, Deer Leap, Black Mountain and Montcalm Point at the south end of Tongue Mountain. The public's use of the registration boxes varies depending on register location, time of visit, entry hours, length of stay and group size. Some registry data is lost or stolen over time, but patterns and general levels can be obtained from data collection over an extended period. Register information for the LGWF is listed below.

Table 3. Trail register information in the LGWF

	Black Mountain (Pike Brook)			Buck Mountain (Pilot Knob)			Clay Meadow		
Year	Total Entries	Visitors	Days	Total Entries	Visitors	Days	Total Entries	Visitors	Days
2005	1101	3171	3549	2878	6894	7049*	1389	3439	3715
2004	1215	3540	4048	3461	8768	8850	1809	4282	4698
2003	1142	3034	3322	3247	8121	8339	1493	3550	3881
2002	1208	3119	3322*	1464	3376	3755*	1726	4252	4339
2001	1408	3851	4082	4644	6187	6372*	-	-	-
2000	497	1351	4082*	-	-	-	-	-	-

	Prospect Mountain			Deer Leap			Inman Pond		
Year	Total Entries	Visitors	Days	Total Entries	Visitors	Days	Total Entries	Visitors	Days
2005 +	1176	3307	3667	996	2916	3284	-	-	-
2004	-	-	-	1208	3676	4053*	-	-	-
2003	-	-	-	1142	3365	3716	176	458	472
2002	-	-	-	1117	2893	2931*	197	417	437
2001	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-

*denotes partial data - not all register pages were recovered for this location and time period
- denotes no data available
+ Due to incomplete calendar year totals, Prospect Mtn data is reported as a 1-year period from 9/04 to 8/05.

A few conclusions can be drawn from the above data:

1) The Buck Mtn. Trailhead is likely the heaviest used trail system in the unit.

2) More attention is needed to pick up register sheets at the Prospect Mtn. Trailhead which experiences frequent lost and stolen sheets. The Prospect Mtn. register box has been moved to a point further up the trail to discourage vandalism and has been somewhat successful.

Due to missing register data for some trails and under use of the registers by users, recreational use is difficult to measure. There are numerous trailheads in the unit; however, LGWF also abuts roadways such as Route 8, 74, 9, 9N, I-87, and numerous hard surfaced town and county roads, providing users with a multitude of potential access points for which DEC has no registration or documented use data.

Trailhead registration data is incomplete for many years. Despite these gaps, the available use information provided by periodic reviews of trail registers and information taken from maintenance records indicates a discernable upward trend in overall use of the unit from previous records.

Most trails are accessed from DEC maintained parking areas at trailheads. Other attractions within the Unit, such as Rogers Rock, are most easily accessed by canoe.

A review of entries made at the Clay Meadows trail register indicates that most users climb to Fifth Peak as a day trip. Similarly, the majority of users signing in at the Pike Brook Road trail register cite the summit of Black Mountain as their destination. The trail register information for the Hogtown Parking Lot indicates more diverse use of the resources accessible from that entry point. Users of the trails in the vicinity of the Hogtown Parking Lot appear to make use of nearly all destinations equally, with many simply walking to the shores of Log Bay on Lake George for both passive (scenic) and active (swimming and fishing) recreational pursuits.

The Montcalm Point registry is located at the tip of Tongue Mountain Point. A dock is available to tie a boat to gain access to the trail system. During 2005, 314 registered for hiking the trail system. Although, relatively few recreationist sign in here, the registry will be kept in place.

While the mountainous areas of the unit appear to receive the greatest use, other popular destinations within the unit include such areas as Jabe Pond, the Hudson River Canoe Area (HRCA) in Warrensburg, and the Hudson River Special Management Area (HRSMA). These popular destinations appeal to those seeking an easily accessed experience on an undeveloped water body. Jabe Pond features motor vehicle access and a car top boat launch. In addition, Jabe Pond has parking lots and campsites to accommodate over night camping as well as boating, fishing, and scenic opportunities to its users. The HRCA offers amenities for day use such as picnic tables and a parking lot, and car-top launch facilities that allow for boating and

fishing on the Hudson River. The HRSMA offers similar amenities, while providing overnight camping opportunities to its users. Records from River Stewards and Warren County (the former administrator of the HRSMA) indicate that the majority of users entered the HRSMA for the day, with fishing and boating as their primary use of each.

Access to the LGWF is largely made via excellent to fair quality state highways, and both town and county roadways. This ease of access allows a great number of visitors to gain access to the interior of the unit. Boat access is also available to portions of the Forest Preserve from Lake George. The most commonly used eastern approaches to the unit are from roads such as Hogtown Road in the town of Fort Ann, and Pike Brook Road in the town of Dresden. Access to such western portions of the unit as the Tongue Mountain Range is gained directly from two points on New York State Route 9N in the Town of Bolton. Jabe Pond is accessed from Split Rock Road, east of Route 9N, in the Town of Hague. Access to the HRSMA is made from River Road in the town of Luzerne. Access to the Hudson River Canoe Area is made from Golf Course Road in the Town of Warrensburg.

High use levels on trails and in areas popular for day use make parking a routine problem throughout the summer months and on holiday and fall weekends. At sites such as Clay Meadows the number of hikers seeking to visit the Tongue Mt. Range exceeds the parking capacity of the lots provided.

Regardless of the deficiencies in the trailhead data, and the continued reliance upon unmonitored trailhead registrations as an index of recreational use, it is evident from trail wear, ranger reports, and observation that the use levels are very high in portions of LGWF and that use continues to grow. Management recommendations are proposed in Section V to control the increasing impacts to particularly high use areas such as Jabe Pond, the HRSMA and the Shelving Rock Camping Area.

Rock climbing activities are not developed within the unit. Currently, there are no designated climbing areas and no official trails to any traditionally used climbing areas of the LGWF. Most rock ledges are of poor quality for climbing purposes. However, climbing is not prohibited. An area that does offer an opportunity for climbing is the face of Stewart's Ledges.

Depending on snowfall amounts, snowmobiling can be a popular activity within the LGWF. Miles of snowmobile trails exist in the Shelving Rock area, Prospect Mt. area, Hudson River Special Management Area, and the northwest portion of the LGWF in the vicinity of Padanarum Rd. and Lily Pond. Local Clubs groom many of the trails and keep them in good shape.

The ESF / Cornell visitor use study that occurred in the northern portion of the LGWF during the summer of 2004, combined state of the art technology and traditional methods to inventory the type and extent of actual public use of the areas. The study included trail counters, interviews with visitors, trail register data and mail survey questionnaires. Information gathered during this study covers a variety of important user information and will allow the DEC to more accurately

assess and respond to needs and issues within the unit through the UMP. Information obtained from this survey will result in better management of the LGWF in the future. This survey and report will also guide the DEC in development of a study to address the portion of the Wild Forest that was not looked at during this study as well as other forest preserve units. Some highlights of the surveys for the LGWF were:

1) Field interviews of hikers on trails with trail registers indicated approximately 31% did not sign in on the trail register.

2) Approximately 82% of visitors were day-use as opposed to overnight.

3) 84.4% of users were hiking, this usually coincided with other activities such as fishing, picnicking, camping, observing wildlife, photography etc.

4) The highest number of users found features like scenic beauty, feeling of peace and quiet, not feeling crowded and enjoying the natural world as the most important features.

5) Less than 2% of users were dissatisfied with their overall experience.

6) 64.2 % of users noted they wanted additional information before a trip, they would like a map of the area listing campsites, hiking trails, etc.

7) The majority of recreationist interviewed in the LGWF favored trail improvements such as stepping stones and water bars.

8) Most respondents were against developing additional campsites.

9) Increasing enforcement of rules and regulations was generally looked upon favorably.

10) Survey data indicates the Northwest Bay Trail and Deer Leap Trail in the Tongue Mtn. range and the Jabe Pond Road were the heaviest used areas in the northern Lake George area.

Wildlife

Data regarding the amount of public use of the wildlife resource within LGWF are not available. A variety of wildlife recreation uses occur on the unit, including: hunting, trapping, bird watching, and wildlife photography. Past studies by DEC indicate that few sportsmen sign-in at trailhead registers. This, combined with the fact that many hunters and trappers traditionally bush whack, and use unmarked trails and watercourses to enter State lands, prevents an accurate estimate of total visitor use. Information regarding non-consumptive use of wildlife is also

lacking. For the most part, observations of wildlife enhance the recreational experience of the general public. Recreational use tends to be heaviest near towns, roads, and access points. With the exception of the more readily accessible areas, the majority of the unit probably is not heavily used by sportsmen during the hunting and trapping seasons.

A number of mammals and birds may be hunted or trapped during seasons set annually by DEC. These species are identified in the Environmental Conservation Law (ECL), Section 11-0903 and 11-0908. The DEC has the authority to set hunting and trapping season dates and bag limits by regulation for all game species. White-tailed deer and bear may be taken during archery, muzzleloading, and regular seasons. Antlerless deer harvest is prohibited during the regular firearm season but may be permitted during the archery and muzzleloading seasons. In addition, there is an early season for black bear.

Small game hunters may take certain waterfowl, woodcock, snipe, rail, crow, ruffed grouse, wild turkey, coyote, bobcat, raccoon, red fox, gray fox, weasel, skunk, varying hare, cottontail rabbit and gray squirrel. Muskrat, beaver, weasel, river otter, mink, fisher, skunk, raccoon, coyote, red fox, gray fox, and bobcat may also be trapped.

Harvest statistics are generated and compiled by DEC using an automated licensing and reporting system (DECALS) for deer, bear, coyote, and turkey and a pelt sealing system for beaver, river otter, fisher, and bobcat. Harvest information is reported by township, county, and Wildlife Management Unit (WMU). Since harvest information is not collected on a Forest Preserve unit basis and harvest distribution is not evenly distributed across the landscape, harvest data by town are generally not representative of the actual harvest within units. Types and levels of non-consumptive uses of wildlife within LGWF have not been determined.

Potential Impacts

The impact of public use on most wildlife species within the unit is unknown. Wildlife species that can be vulnerable to disturbance associated with public recreational activity include:

a. Nongame Species

Common Loon: Common loons nest along shorelines of lakes and ponds. Their nests are often very near the water line, and are susceptible to disturbance from the land or from the water. Nests along shore are more susceptible to human disturbance where trails follow the shore of a lake. Nests along the shore or on islands are more susceptible to human disturbance if boats or canoes can be carried readily into lakes occupied by loons. Water bodies with greater boating access will have higher levels of disturbance. If adults are forced to leave the nest, nest abandonment could occur. Additionally, fledgling mortality can occur if chicks are chased by boats.

Loons are a long-lived species and a predator near the top of the food chain. These characteristics make loons more susceptible to the accumulation of environmental toxins. Thus, this species is often used by scientists as an ecological indicator of the health of the environment and water quality. Airborne contaminants, including "acid rain", can cause the bioaccumulation of mercury, a neurotoxin, and a decreased food supply, which can potentially lead to decreased reproductive success. The death of adult loons due to lead toxicity from the ingestion of lead fishing tackle accidentally lost by anglers is a concern and has recently been documented in New York State. Regulations were recently passed in 2004 for New York that prohibit the sale of lead sinkers weighing less than one half ounce including "split- shot". The effects of direct human impacts, such as disturbance or shoreline use, on breeding loons within this unit has not been determined, but is presumed to be low due to the minimal number of improvements and facilities. Management efforts will concentrate on protecting loon nesting areas and habitat.

Peregrine Falcon: See Critical Habitat section.

Timber Rattlesnake: See Critical Habitat section.

b. Game Species

Impacts appear to be minimal for those game species that are monitored. The DEC's Bureau of Wildlife monitors the populations of game species partly by compiling and analyzing harvest statistics, thereby determining levels of consumptive wildlife use. Several recent legislative changes have occurred that likely have had impacts on use of the area by hunters. Both hunting of bears by using bait and by using dogs have been prohibited, probably lowering use by bear hunters. Use by deer hunters probably has increased because of legislative changes, increasing the number of deer that can be harvested. Harvest statistics are compiled by town, county and wildlife management unit. Regular season deer regulations (bucks only) for this area result in limited impacts to the reproductive capacity of the deer population. Overall, deer populations within the unit are capable of withstanding current and anticipated levels of consumptive use.

An analysis of black bear harvest figures, along with a study of the age composition of harvested bears, indicates that hunting has little impact on the reproductive capacity of the bear population. Under existing regulations, the unit's bear population is capable of withstanding current and anticipated levels of consumptive use.

The coyote, varying hare, and ruffed grouse are widely distributed and fairly abundant throughout the Adirondack environment. Hunting and/or trapping pressure on these species is relatively light. Under current regulations, these species undoubtedly are capable of withstanding current and anticipated levels of consumptive use.

While detrimental impacts to game populations over a large area are unlikely, wildlife biologists continually monitor furbearer harvests, with special attention to beaver, river otter, bobcat, and fisher. These species can be susceptible to overharvest to a degree directly related to market

demand for their pelts as well as a variety of other economic and environmental factors. The DEC Bureau of Wildlife closely monitors furbearer harvest by requiring trappers to have the pelts of beaver, bobcat, fisher, and river otter sealed by DEC staff. Specific regulations are changed when necessary to protect furbearer populations.

c. Other Impacts

Water fluctuations can have a significant impact on nesting activity of loons, marsh birds, and waterfowl and can also have a negative impact on furbearers such as muskrats and beaver. The maintenance and protection of winter deer yards remains a concern of wildlife managers, particularly in the Adirondacks, as they fulfill a critical component of the seasonal habitat requirements of white-tailed deer. Few data are available on the impacts of cross-country ski trails and foot travel during winter on deer use of wintering areas.

Projecting future demand and use of the LGWF is difficult. Economic changes have the potential to affect annual use of the area as much as weather patterns. When the national or regional economy takes a down turn people tend to take less expensive vacations and take them closer to home. The proximity of the Adirondack region to major eastern metropolitan centers makes primitive camping in the LGWF an attractive alternative. Currently the Canadian dollar is strong in the United States, and the number of Canadian visitors to the region has been increasing. Concern over airline security and potential terrorism attacks to metropolitan areas increases the likelihood that shorter trips, reachable by automobile, may be more appealing to residents in the Northeast. Uncertainty in the future underscores the importance of monitoring use and health of the Forest Preserve so that adverse impacts can be identified and addressed early.

In 2003, the DEC and the APA entered into an agreement with the SUNY College of Environmental Science and Forestry and Cornell University to conduct some studies on visitors to Forest Preserve lands. Under this agreement, ESF and Cornell University gathered information in a visitor use study on two DEC planning areas and developed three reports from this data. The three reports detail baseline information on visitor use, user characteristics, and user attitudes and preferences as well as recommendations for research prototypes that can be used by the DEC in the UMP process. The development of the research prototype would allow the DEC to undertake a park-wide visitor use survey of Forest Preserve lands. The data collected through this survey will focus on both park-wide trends in use and unit level use. The survey will investigate such aspects as seasonality, modality and total level of use of public lands. Data regarding specific units will focus on trends in register sign-ins, programs and resources targeted by users and other specific data to be used in a Limits of Acceptable Change decision-making system. This survey is intended to provide data not only for use in managing facilities and improvements, but also for decision making pertaining to fish and wildlife management practices including programs such as fish stocking.

Fisheries

Fish communities in the Adirondacks are a result of geological and human influences. Prior to human influences relatively simple fish communities were common. Human-caused changes in habitat and introduction of fishes have altered those natural communities. Nonnative fishes now are widespread and many native species are more widely distributed than historically. Other natives, notably brook trout and round whitefish, have declined.

Geological History of Adirondack Fishes, a DEC publication (August 1980) by Dr. Carl George of Union College, provides a summary of geological events which influenced the colonization of the Adirondack ecological zone by fishes. A limited number of cold tolerant, vagile (able to move about or disperse in a given environment), lacustrine species closely followed the retreat of the glacier. Such species presumably had access to most Adirondack waters. About 13,000 before present (B.P.) glacial Lake Albany, with a surface elevation of 350' above-sea-level (ASL), provided a colonizing route for Atlantean and eastern boreal species to Lake George and Lake Champlain. Barriers above that elevation would have excluded those species from interior portions of the Adirondacks.

By about 12,300 BP, the Ontario lobe of the glacier had retreated sufficiently to allow species associated with the Mississippi drainage access to fringes of the Adirondacks via the Mohawk Valley and the St. Lawrence drainage including Lake Champlain. Lake Albany had apparently drained prior to that, as barriers had formed on the Lake George outlet (i.e., the Glens Falls moraine). The sequence of colonization routes to surrounding areas, combined with Adirondack topography, resulted in highly variable fish communities within the Adirondacks. In general, waters low in the watersheds would have the most diverse communities. The number of species present would have decreased progressing towards headwater, or higher elevation sections of the watersheds. Chance and variability in habitat would have complicated the trends. Consequently, the composition of fish communities in the various waterbodies became highly variable. Some bodies of water contained no fish at all, while some featured single-species populations called ‘monocultures’. Still other bodies of water, such as Lakes George and Champlain, featured highly diverse fish populations.

The phenomena of acid ion deposition, popularly known as “acid rain,” have had little discernible impact on the fisheries resources of the unit. The pH exceeds 5.7 on all area ponds with recent chemistry data, except for a 1-acre Unnamed Pond CH-P 401 (pH 5.2) and Millman Pond CH-P 402 (pH 4.93). Although 22 of the waters have not had recent (since 1975) water chemistry surveys, the majority of these are the smaller unnamed ponds. Ponds managed for rainbow trout which exhibit a pH less than 6.0 may experience poor rainbow trout survival because of the sensitivity of this species to low pH. Based on the latest available information the two ponds in the unit managed for rainbow trout (Jabe Pond and Round Pond) have a pH between 6.93 and 7.65.

In 1932 the first large scale biological survey established the widespread presence of, nonnative fishes throughout most of the Lake George Wild Forest. By 1932 lakes and ponds in the unit

often contained from two to four nonnative species. Apparently, during the late 19th to early 20th century, fishes such as smallmouth bass, largemouth bass, yellow perch, and golden shiner were introduced in the unit.

The available information suggests that brook trout were well represented in the unit but, their exact distribution remains obscure because the area was heavily impacted by the early establishment of nonnative species. Today brook trout are maintained principally through routine stocking and by reclamation of impacted ponds lakes and streams. As part of the restoration efforts within the unit, Little Tupper Lake strain brook trout were introduced in the unit in 1976. Lake trout occur only in Lake George, the largest of the unit's lakes. Occasionally, lakers are caught in Round Pond probably as the result of an unauthorized introduction or stocking error. A number of ponds show a rapid accrual of introduced fish species. These ponds include Duck Pond and Long Pond.

Although the unit contains a number of streams which are stocked by DEC and Warren County, recent biological survey information is generally unavailable. A number of the Lake George tributaries served as nursery areas for landlocked salmon from the 1950's through 1970's; however, landlocked salmon populations have since been maintained by annual yearling salmon stocking directly into Lake George.

Quantitative angler use estimates and their economic impact for the Lake George Wild Forest are not available. Angling-related expenditures contribute to the economy of the area and have probably remained stable or increased slightly over the last decade. Rogers Rock and Hearthstone DEC campgrounds and numerous resorts and businesses attract anglers to the Lake George region. Tourism and outdoor recreation are a major portion of the areas economy.

Quantitative information about the numbers of anglers who visit the waters of the Lake George Wild Forest Area is unavailable. However, fishing is a popular activity in selected waters. Fishing pressure is generally higher on the more readily accessible lakes and streams, but angler use of the unit's streams is believed to be much less than their use of unit lakes and ponds. Most of the fishing activity in the Lake George Wild Forest is concentrated on Lake George, on coldwater lakes, and on Adirondack brook trout ponds. Trout fishing on lakes and ponds typically peaks in April, May, and June when trout can still be found in the cool water near the surface. Surface fishing activity declines in the summer due to formation of a thermocline which causes fish to move to deeper, well oxygenated water.

Warmwater angling on the unit's only two-story lake (Lake George) and only warmwater lake (Lily Pond) peaks in July-August.

DEC angling regulations are designed to preserve fish populations in individual waters by preventing over-exploitation. When necessary, populations of coldwater gamefish are maintained or augmented by DEC's annual stocking program. Most warmwater species (smallmouth bass, largemouth bass, northern pike and panfish) are maintained by natural

reproduction; however, stocking is sometimes used to introduce those fishes to waters where they do not exist. Under existing angling regulations, the coldwater and warmwater fish populations are, capable of withstanding current and anticipated levels of angler use.

DEC monitors the effectiveness of angling regulations, stocking policies, and other management activities by conducting periodic biological and chemical surveys. Based on analysis of biological survey results, angling regulations may be changed as necessary to protect the fish populations of the Lake George Wild Forest Area. Statewide angling and special angling regulations provide the protection necessary to sustain or enhance natural reproduction where it occurs.

Water Resources

With the exception of the high degree of motorized use seen in the southern basin of Lake George, the predominant recreational use of the water resources in the LGWF is for fishing, canoe and small boat camping, and aesthetic purposes.

The northern basin of Lake George contains the intensely popular islands found within 'The Narrows'. It should be noted that this portion of the lake receives the majority of water-borne campers, but that it is not part of the Wild Forest lands of the unit. The discussion of the narrows islands is pertinent to Wild Forest lands in that the car-top boat launch of the unit at Northwest Bay is used by small craft operators seeking to reach these intensive use areas as well as water accessible features of the Wild Forest.

Currently the unit offers few opportunities for 'car-top' watercraft. The boat launch currently situated at Northwest Bay is the only launch facility for Lake George situated in the Wild Forest areas of the unit. It should be noted, however, that DEC administers boat launches on the lake including Rogers Rock Campground, Lake George Beach and Mossy Point at the north end of the lake. These launches provide access to the lake and Wild Forest lands along the lake. A car-top launch facility found at the Hudson River Canoe Area offers access to the Hudson River, however this facility is owned by NYS and managed with assistance from Warren County. The opportunity for car-top launching into the Hudson river is possible from portions of the Hudson River Special Management Area. Several of the canoe access points require soil stabilization and maintenance to protect riverside vegetation and soils.

Other ponds in the interior of the unit are visited occasionally by hunters and fishermen, most notably, Lily, Island and Long Ponds in the western portion of the unit, and Fishbrook Pond in the eastern portion. Fishbrook Pond is a popular interior destination for camping and is a likely destination for brook trout anglers. Most camping sites in the unit are found adjacent to ponds or other water sources. Angling use of the interior ponds is light, and given the relative isolation and bog-like nature of many of the ponds, their increased use as a recreational resource (e.g., boating) appears unlikely.

F. Relationship Between Public and Private Land

Recreational use of the LGWF is largely afforded by state owned points of access and travel. Public trailheads and boat launching points generally originate on state lands. However, in certain locations, such as the heavily used HRSMA, public use can infringe on the rights of private landowners when excessive noise and accidental and intentional trespass occurs. To mitigate these impacts, DEC staff work closely with adjoining landowners to ensure that the access rights of the public are maintained and that the impacts of public use on the landowners rights are minimized.

The largest impact to the LGWF results from over use and lack of maintenance. Other impacts are associated with private uses surrounded by or adjacent to Forest Preserve. Trees on state land have been felled and taken for sale by loggers working on adjoining properties. Also, hunting camps and other non-conforming structures have been found on state land in close proximity to private lands. Lastly, informal and improved trails leading from private to public lands have caused increased pressure upon, and in some cases have even caused damage to state lands. These unofficial trails do not receive maintenance from DEC staff.

The Lake George Wild Forest is not the only unit of state land in the area. Several Forest Preserve units including the Pharaoh Lake Wilderness, Vanderwhacker Mountain Wild Forest and the Wilcox Lake Wild Forest are in close proximity.

<u>Vanderwhacker Mountain Wild Forest</u>

State Lands	91,854 acres
Elevation (maximum)	3,878 feet
Foot Trails	14 miles
Campsites	38

<u>Pharaoh Lake Wilderness</u>

State Lands	46,283 acres
Elevation (maximum)	2,551
Foot Trails	68 miles
Campsites	168

<u>Wilcox Lake Wild Forest</u>

State Lands	124,643 acres
Elevation (maximum)	3254 feet
Foot Trails	79 miles
Campsites	65

Prospect Mountain Intensive Use Area

State Lands	1010 acres
Elevation (maximum)	2030
Foot Trails	1.0 miles
Campsites	0

Lake George Battleground Intensive Use Area

State Lands	22 acres
Elevation (minimum)	360
Foot Trails	0
Campsites	68

Hearthstone Point Intensive Use Area

State Lands	98 acres
Elevation (minimum)	320
Foot Trails	0
Campsites	251

Lake George Islands Intensive Use Area

State Lands	44 Islands
Elevation (minimum)	320
Foot Trails	0
Campsites	387

Rogers Rock Intensive Use and Day Use Area

State Lands	61 acres
Elevation (minimum)	320
Foot Trails	0
Campsites	301

Lake George Battleground Day Use Area

State Lands	35
Elevation	325
Bike Trail	1.0 miles
Campsites	0

G. Capacity of the Resource to Withstand Use

The LGWF, like any other natural area in our Forest Preserve, cannot withstand ever-increasing, unlimited visitor use without suffering the eventual loss of its essential, natural character. This much is intuitive. What is not intuitive, though, is how much use and of what type the whole area - or any particular site or area within it - can withstand before the impacts of such use cause

serious degradation of the very resource being sought after and used. Such is a wildland manager's most important and challenging responsibility, however, to work to ensure a natural area's "carrying capacity" is not exceeded while concurrently providing for visitor use and benefit.

Current levels of consumptive (i.e., hunting and trapping) and non-consumptive wildlife uses are not expected to significantly impact wildlife populations in LGWF. The inaccessibility of much of the unit substantially reduces the potential for overharvest of game species, including many furbearer species (e.g., river otter, fisher, bobcat) and provides a "reservoir" that ensures that harvests are sustainable over time.

Defining the amount and type of use that the area could withstand before negative impacts to the wildlife resource occurred would be a significant challenge. However, consideration of relative differences in wildlife or community sensitivities to disturbances could be useful for recreational planning. Endangered, threatened, and special concern wildlife species, critical habitats, and significant ecological communities should receive primary attention during planning efforts, because their capacity to withstand use is likely less than that for more abundant wildlife species and common habitats and communities. Furthermore, impacts to these resources due to our limited understanding of their capacity to withstand use could be much more serious than for other more common resources.

Several areas within LGWF should receive careful consideration during planning efforts, including: 1) Peregrine Falcon nesting areas, 2) timber rattlesnake habitat, 3) shorelines of lakes where Common Loons nest, 4) significant ecological communities identified by NYNHP, and 5) core deer wintering areas.

The term "carrying capacity" has its roots in range and wildlife sciences. As defined in the range sciences, carrying capacity means "the maximum number of animals that can be grazed on a land unit for a specific period of time without inducing damage to the vegetation or related resources" (Arthur Carhart National Wilderness Training Center, 1994). This concept, in decades past, was modified to address recreational uses as well; although in its application to recreational use it has been shown to be significantly flawed when the outcome sought has been the "maximum number" of people who should visit and recreate in an area such as the LGWF. Much research had shown that the derivation of such a number is not useful.

Essentially, this is because the relationship between the amount of use and the resultant amount of impact is not linear (Krumpe and Stokes, 1993). For many types of activities, for instance, most of the impact occurs with only low levels of use. In the case of trail erosion, once soil starts to wash away, additional foot travel does not cause the impact upon the trail to increase proportionately. It has been discovered that visitor behavior, site resistance/resiliency, type of use, etc. may actually be more important in determining the amount of impact than the amount of use, although the total amount of use is certainly (and obviously) still a factor (Hammit and Cole, 1987).

This makes the manager's job much more involved than simply counting, redirecting, and (perhaps) restricting the number of visitors in an area. Influencing visitor behavior can require a well-planned, multi-faceted educational program. Determining site resistance/resiliency always requires research (often including much time, legwork and experimentation). Shaping the types of use impacting an area can call not only for education and research and development of facilities, but also the formulation and enforcement of a set of regulations which some users are likely to regard as objectionable.

Nevertheless, the shortcomings of a simple carrying capacity approach have become so apparent that the basic question has changed from the old one, "How many is too many?" to the new, more realistic one: "How much change is acceptable?" The DEC embraces this change in approach while recognizing the tasks it calls for in developing the best foundation for management actions. Professionally-informed judgements must be made such that carrying capacity is given definition in terms of resource and social conditions that are deemed acceptable; these conditions must be compared with the real, on-the-ground conditions; certain projections must be made; and management policies and actions must be drafted and enacted with an aim toward maintaining or restoring the conditions desired.

This shift in managers' central focus - away from trying to determine how many visitors an area can accommodate to trying to determine what changes are occurring in the area and whether or not they are acceptable - is as critical in a Wild Forest area like the LGWF as it is in a Wilderness. All such areas are State Forest Preserve Units which must be protected, as per the state Constitution, as "forever wild forest land." Furthermore, the APSLMP dictates in the very definition of Wild Forest areas that their "essentially wild character" be retained.

The magnitude of the challenge here is made evident by other statements and acknowledgments found in the APSLMP concerning Wild Forest areas. The 1972 APSLMP claim that "many of these areas are under-utilized" remains seemingly true, and from this determination and the determination that these areas "are generally less fragile, ecologically" comes a directive that "these areas should accommodate much of the future use of the Adirondack Forest Preserve."

Clearly, a delicate balancing act is called for, and yet just as clearly, the DEC's management focus must remain on protecting the resource. "Future use" is not quantified in the above directive, but it is generally quantified and characterized in the definition of Wild Forest as only "a somewhat higher degree of human use" when compared to Wilderness. And whereas certain "types of outdoor recreation... should be encouraged," they must fall "within constitutional constraints... without destroying the Wild Forest character or natural resource quality" of the area.

A central objective of this plan is to lay out a strategy for achieving such a balance in the LGWF. This strategy reflects important guidelines and principles, and it - along with the guidelines and principles - have directed the development of the management proposals which are detailed in Section V.

Strategy

The long-term strategy for managing the LGWF uses a combination of three generally accepted planning methods: (1) the goal-achievement process; (2) the Limits of Acceptable Change (LAC) model employed by the U.S. Forest Service; and (3) the Visitor Experience and Resource Protection (VERP) model employed by the National Park Service. Given the distinctly different, yet important purposes of these methods (particularly between the first method and the second two), there are clear benefits offered by employing a blend of these approaches here.

Goal-Achievement Process

The goal-achievement process provides a framework for proposed management by means of the careful, stepwise development of key objectives and actions that serve to prescribe the Wild Forest conditions (goals) outlined by APSLMP guidelines. DEC is mandated by law to devise and employ practices that will attain these goals. For each management activity category included in Section V of this plan, there has been worked up a written assessment of the current management situation and a set of assumptions about future trends, in which the specific management proposals which follow are rooted.

Limits of Acceptable Change (LAC) and Visitor Experience and Resources Protection (VERP) Models

Limits of Acceptable Change (LAC) Process

The LAC process employs carrying capacity concepts to prescribe – not the total number of people who can visit an area – but the desired resource and social conditions that should be maintained regardless of use. Establishing and maintaining acceptable conditions depends on explicit management objectives which draw on managerial experience, research, inventory data, assessments, projections and public input. Indicators, measurable variables that reflect conditions, are chosen and standards, representing the bounds of acceptable conditions, are set, so management efforts can address unacceptable changes. The LAC process relies on monitoring to provide systematic and periodic feedback to managers.

Though generally the levels of human impact within the LGWF are relatively low, a number of management issues could be addressed by the LAC process. Such issues may be categorized as conflicts between public use and resource protection, conflicts between users, and conflicts between outside influences and the objectives for natural resource or social conditions within the unit. For instance, two goals of management are protecting natural conditions and providing public recreational access. Yet the promotion of recreational use could have unacceptable impacts to natural resources, such as the soils and vegetation in a popular camping area. The LAC process could be used to determine the thresholds of acceptable soil and vegetation impacts and what management actions would be taken to protect resources from camping use.

LAC does not work in every situation. For example, managers do not need a process to help them determine how much illegal ATV use is acceptable; because existing wild forest guidelines and regulations strictly limit public motor vehicle use, all illegal motor vehicle use is unacceptable.

The LAC process involves 10 steps:

Step 1: Define Goals and Desired Conditions
Step 2: Identify Issues, Concerns and Threats
Step 3: Define and Describe Acceptable Conditions
Step 4: Select Indicators for Resource and Social Conditions
Step 5: Inventory Existing Resource and Social Conditions
Step 6: Specify Standards for Resource and Social Indicators for Each Opportunity Class
Step 7: Identify Alternative Opportunity Class Allocations
Step 8: Identify Management Actions for Each Alternative
Step 9: Evaluate and Select a Preferred Alternative
Step 10: Implement Actions and Monitor Conditions

The application of the LAC process will require a substantial commitment of staff time and public involvement. The full implementation of LAC for each unit will occur over a period of years. Of the 10 steps of the LAC process, this plan implements steps 1, 2 and 3, which apply to all the resources and conditions of the unit. The application of steps 4, 5 and 6 to selected issues is proposed for the next five years.

As a part of step two of LAC, this UMP identifies significant management issues affecting the LGWF. From the list in Section III-E, issues suitable for the application of the LAC process will be selected. For these issues, the Department will implement the four major components of the LAC process:

• The identification of acceptable resource and social conditions represented by measurable indicators;
• An analysis of the relationship between existing conditions and those desired;
• Determinations of the necessary management actions needed to achieve and preserve desired conditions; and,
• A monitoring program to see if objectives are being met over time.

Though LAC will not be fully implemented, this plan provides substantial resource inventory information, sets goals founded on law, policy and the characteristics of the area, identifies management issues, and lays out an extensive system of proposed objectives and actions designed to meet management goals. Ultimately a monitoring system will be put in place, and management actions will be revised and refined over time in response to the results of periodic evaluation to assure that desired conditions will be attained or maintained.

Establishing and maintaining acceptable conditions depends on well-crafted management objectives which are explicit and which draw on managerial experience, research, inventory data, assessments and projections, public input, and common sense. When devised in this manner, objectives founded in the LAC and VERP models essentially dictate how much change will be allowed (or encouraged) to occur and where, as well as how management will respond to changes. Indicators (measurable variables that reflect conditions) are chosen, and standards (representing the bounds of acceptable conditions) are set, all so that management efforts can be effective in addressing unacceptable changes. A particular standard may be chosen so as to act as a simple trigger for management action (as in VERP), or it may be chosen to act as a kind of boundary which - given certain assessments - allows for management action before conditions deteriorate to the point of no longer meeting the standard (as in LAC).

Even well-conceived and executed efforts can prove ineffective, but when this is the case, management responses must be adjusted. **Monitoring of resource and social conditions is absolutely critical.** Both the LAC and VERP models rely on monitoring to provide systematic and periodic feedback to managers concerning specific conditions. However, since the VERP model was developed to apply only to impacts from visitor use, some management issues in the LGWF (for instance, the impacts of acid deposition) call for an approach that is properly in the LAC vein.

Since differences between LAC and VERP are not significant, choices are left up to managers. These choices are as evident as they need to be wherever this plan, in Section IV, calls for sets of management actions which incorporate them.

A list of indicators which may be used by the DEC for measuring and evaluating acceptable change on the LGWF are:

- Condition of vegetation in camping areas and riparian areas near lakes and streams;
- Extent of soil erosion on trails and at campsites;
- Noncompliant behavior;
- Noise on trails and in campsites;
- Conflicts between different user groups;
- Diversity and distribution of plant and animal species;
- Air and water quality.

These indicators form the basis for the proposed management actions presented in Section V. This approach will require flexibility, determination and patience. It will not be possible to complete all inventories and assessments called for by this strategy - and by the APSLMP - in this plan's five-year time frame. It will be important to show progress in achieving APSLMP goals and in gaining initial managerial experience and knowledge in applying this strategy to some carrying capacity questions and issues. Knowledge gained as a result of the

implementation of this first LGWF UMP will be useful to: 1) revising and refining management actions if evaluation shows that desired conditions are not being attained or sustained; and 2) creating a foundation upon which this strategy can eventually be built into a fully-developed, science-based approach to protecting and managing the unique resources of the LGWF.

The APSLMP requires that each unit management plan provide an environmental and social assessment of area resources to determine the area's capacity to withstand increased public use and recreation development.

The preceding facilities inventory, assessments and assumptions of current use, and the inventory of biophysical resources, indicates that the LGWF can withstand higher use levels except in sensitive areas and currently overused areas – such as the Shelving Rock and Hudson River Special Management Areas. Sensitive areas include areas adjacent to or in wetlands, riparian areas, and mid-slope to high elevation summits and ridges.

Generally speaking at lower elevations and not on steep slopes, there are opportunities to increase the recreational resource base of the area without adversely affecting the environment and the social experiences of visitors. According to the recent Adirondack Visitor Studies by Chad Dawson, less than 2% of visitors were dissatisfied with their overall trip to the Northern Lake George Wild Forest area. Area physiography, soils, landscape character, vegetation, water resources, fish and wildlife dictate the type and extent of recreation facilities development and the uses of the land thereon. Analysis of these items indicate that greater facility centered development is both possible and desirable at lower elevations to expand recreational opportunities. The lower slopes are drier, have well drained soils, and more resilient vegetation capable of withstanding increased recreational use. Day hiking, expanded hunter and fishermen access, trail system expansions for cross-country ski touring, mountain biking, snowmobiling and snowshoeing are examples of facility-centered opportunities generally compatible with Wild Forest designation.

Before any new facilities are planned or constructed, substandard facilities need to be brought up to acceptable standards to correct undesirable environmental impacts. For example, within the LGWF, new sections of trail would be constructed to replace trail sections which are poorly designed, eroded, or located in sensitive areas. Abandoned trail sections no longer needed would be rehabilitated and permanently closed. There are opportunities to utilize and improve an existing network of pre-forest preserve logging roads to complement the existing trail system for a variety of compatible recreation uses. This for example, would reduce tree cutting and soil disturbance in conversion of these roads to more environmentally stable recreational uses.

The DEC believes present use levels within the Wild Forest preserve parcels covered by this plan are generally moderate to heavy. For the northern portion of this unit these beliefs are reinforced by observations in Dawson's Adirondack Visitor Studies. The portion of the unit where carrying capacity limits are most likely to reach sustainable limits in the near future are the hiking trails such as Buck Mtn. With recreational users having more available time,

recreational use will likely increase over time in this unit. How much of an increase will occur is not easily predictable. Proposals will be made at that time to alleviate overuse problems such as erosion, if they are found to occur. If damage to trails does occur and mitigation proposed fails to correct the problem, sections of trails may need to be closed.

Through the Unit Management Planning Process, the DEC will likely undertake visitor use surveys of Forest Preserve lands. The data collected will focus on both park-wide trends in use and unit level use. The survey will investigate such aspects as seasonality, modality and total level of use of public lands. Data regarding specific units will focus on trends in register sign-ins, programs and resources targeted by users and other specific data to be used in a Limits of Acceptable Change decision-making system. This survey is intended to provide data not only for use in managing facilities and improvements, but also for decision making pertaining to fish and wildlife management practices including programs such as fish stocking. Some intensive surveys were planned for the LGWF and completed. Information obtained from this survey will result in better management of the LGWF in the future. State of the art technology will be combined with traditional methods to inventory the type and extent of actual public use of the areas.

H. Education, Interpretation and Research

Presently, educational efforts within the unit are a function of 'opportunity teaching' in which DEC personnel, usually Conservation Officers and Forest Rangers interact with visitors to the unit they encounter in the field. While effective, this approach is naturally hit-and-miss as the duties of these personnel do not often leave them time or opportunity to conduct public outreach functions such as education. Education concerning the unit also occurs in a limited fashion via DEC programs such as the Hunter Safety and Bow hunting training programs.

Users are also offered information in the form of direct contact with the Region 5 offices and the personnel there. Users can usually obtain information concerning fishing, hunting and camping regulations within the unit through a simple call to the DEC headquarters in Warrensburg or Ray Brook. In addition the DEC publishes an extensive number and variety of informational pamphlets which are distributed throughout the unit and in adjacent areas. The informational brochures outline all major DEC regulations and programs within the unit affecting user activities.

Educational and interpretive efforts in the area are conducted by such organizations as Warren County, which maintains an interpretive center in Bolton Landing at Up Yonda Farm on Route 9N. Additionally, the Adirondack Mountain Club, with facilities on Goggins Road in Lake George occasionally offers classes and interpretive hikes in LGWF, which provide direct educational and interpretive opportunities for visitors. More detailed education and research of the unit's natural history and ecological processes can be gained through the Rensselaer Polytechnic Institute which has maintained its Darrin Freshwater Institute on the shores of Lake George for at least 25 years. Research performed at this facility has lead to the publication of over 600 papers concerning the ecology of Lake George and the lands and waters of its watershed.

SECTION III. MANAGEMENT AND POLICY

A. Past Management

The APSLMP defines Wild Forest as, "... an area where the resources permit a somewhat higher degree of human use than in wilderness, primitive or canoe areas, while retaining an essentially wild character. A Wild Forest area is further defined as an area that frequently lacks the sense of remoteness of Wilderness, Primitive or Canoe areas and that permits a wide variety of outdoor recreation". This definition sets out the qualitative objective of managing the unit's Wild Forest areas. Clearly some indication of human presence upon the landscape is permissible both in terms of how the land is used, and in how it is managed. The DEC has striven to manage LGWF in accordance with this objective. However, changes in the type and distribution of use dictate that the DEC must initiate novel management actions in order to maintain Wild Forest values within the unit.

Historically the DEC has managed the LGWF by responding to problems as they arise rather than working to prevent emergent situations from becoming problems. The unit's more remote tracts continue to be popular with hikers, backpackers and horseback riders. Trail conditions in these areas range from poor to good with the majority of trails being in fair condition. The same may be said of many of the interior campsites and lean-tos. Most trails are adequately maintained and remain relatively stable although trail rehabilitation and relocation projects lag behind the need to perform such work.

Past and present wildlife management activities on LGWF have been shaped largely by Article XIV of the New York State Constitution that provides that the lands of the Forest Preserve "shall be forever kept as wild forest lands" and that the timber thereon shall not be "sold, removed, or destroyed." Therefore, habitat management through the use of timber harvesting, prescribed burning, or other means of modifying the vegetation to alter wildlife habitat is not permissible in the unit. Additionally, NYCRR §194.2 (b) prohibits prescribed fires to be set on Forest Preserve lands. Options for wildlife management in the Forest Preserve include the setting of hunting and trapping seasons, setting harvest limits, defining manner of taking, restoring or augmenting populations of native species, preventing the introduction of non-native species, and removing non-native species.

B. Management Guidelines

1. Guiding Documents

This Unit Management Plan has been developed within the guidelines set forth by Article XIV, Section 1, of the State Constitution, Article 9 of the Environmental Conservation Law, Parts 190-199 of Title 6 NYCRR of the State of New York, the Adirondack Park State Land Master Plan, and established DEC policy.

Article XIV of the State Constitution provides in part that, "The lands of the State, now owned or hereafter acquired, constituting the Forest Preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed."

The APSLMP provides guidance for the use and management of lands which it classifies as "Wild Forest" by establishing basic guidelines.
This UMP contains Forest Preserve units with the APSLMP classification of Wild Forest.

"Wild Forest" is defined, in relevant part, on page 32 of the APSLMP, as:

> *"An area where the resources permit a somewhat higher degree of human use than in Wilderness, Primitive, or Canoe areas while retaining an essentially wild character. A Wild Forest area is further defined as an area that frequently lacks the sense of remoteness of Wilderness, Primitive or Canoe areas and that permits a wide variety of outdoor recreation."*

Wild Forests are generally less fragile than Wilderness or Primitive areas, and thus more human impacts can be tolerated. But, the natural resources and natural forest setting must still be protected in a Wild Forest despite the expanded recreational opportunities that can be provided.

DEC policy has been developed for the public use and administration of Forest Preserve lands. Select policies relevant to the management of this unit include:

- Administrative Use of Motor Vehicles and Aircraft in the Forest Preserve (CP-17).
- Motor Vehicle Access to State Lands Under the Jurisdiction of DEC for People with Disabilities (CP-3).
- Standards and Procedures for Boundary Line Maintenance (NR-91-2; NR-95-1).
- Tree Cutting on Forest Preserve Land (O&D #84-06).
- Cutting and Removal of Trees in the Forest Preserve (LF-91-2).
- Snowmobile Trails - Forest Preserve (ONR-2).

- The Administration of Conservation Easements (NR-90-1).
- Acquisition of Conservation Easements (NR-86-3).
- Division Regulatory Policy (LF-90-2).
- Adopt-A-Natural Resource (ONR-1).
- Policies and Procedures Manual Title 8400 - Public Land Management.
- Forest Preserve Roads (CP-38).

The DEC also maintains policy to provide guidelines for the design, location, siting, size, classification, construction, maintenance, reconstruction and/or rehabilitation of dams, fireplaces, fire rings, foot bridges, foot trails, primitive camping sites, road barriers, sanitary facilities and trailheads. Other guidelines used in the administration of Forest Preserve lands are provided through Attorney General Opinions, DEC policy memos, and Regional operating procedures.

The recommendations presented in this UMP are subject to the requirements of the State Environmental Quality and Review Act of 1975. All proposed management activities will be reviewed and significant environmental impacts and alternatives will be assessed.

2. Application of Guidelines and Standards

The Americans with Disabilities Act (ADA) and Its Influence on Management Actions for Recreation and Related Facilities

The Americans with Disabilities Act (ADA), along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973; Title V, Section 504, have had a profound effect on the manner by which people with disabilities are afforded equality in their recreational pursuits. The ADA is a comprehensive law prohibiting discrimination against people with disabilities in employment practices, use of public transportation, use of telecommunication facilities and use of public accommodations. Title II of the ADA applies to the DEC and requires, in part, that reasonable modifications must be made to its services and programs, so that when those services and programs are viewed in their entirety, they are readily accessible to and usable by people with disabilities. This must be done unless such modification would result in a fundamental alteration in the nature of the service, program or activity or an undue financial or administrative burden to the DEC. Since recreation is an acknowledged public accommodation program of the DEC, and there are services and activities associated with that program, the DEC has the mandated obligation to comply with the ADA, Title II and ADA Accessibility Guidelines, as well as Section 504 of the Rehabilitation Act.

The ADA requires a public entity to thoroughly examine each of its programs and services to determine the level of accessibility provided. The examination involves the identification of all existing programs and services and an assessment to determine the degree of accessibility provided to each. The assessment includes the use of the standards established by Federal Department of Justice Rule as delineated by the Americans with Disabilities Act Accessibility

Guidelines (ADAAG, either adopted or proposed) and/or the New York State Uniform Fire Prevention and Building Codes, as appropriate. The development of an inventory of all the recreational facilities or assets supporting the programs and services available on the unit was conducted during the UMP process. The assessment established the need for new or upgraded facilities or assets necessary to meet ADA mandates, in compliance with the guidelines and criteria set forth in the Adirondack Park State Master Plan. The DEC is not required to make each of its existing facilities and assets accessible. New facilities, assets and accessibility improvements to existing facilities or assets proposed in this UMP are identified in the "Proposed Management Recommendations" section.

The Americans with Disabilities Act Accessibility Guidelines

The ADA requires public agencies to employ specific guidelines which ensure that buildings, facilities, programs and vehicles as addressed by the ADA are accessible in terms of architecture and design, transportation and communication to individuals with disabilities. A federal agency known as the Access Board has issued the ADAAG for this purpose. The Department of Justice Rule provides authority to these guidelines.

Currently adopted ADAAG address the built environment: buildings, ramps, sidewalks, rooms within buildings, etc. The Access Board has proposed guidelines to expand ADAAG to cover outdoor developed facilities: trails, camp grounds, picnic areas and beaches. The proposed ADAAG is contained in the September, 1999 Final Report of the Regulatory Negotiation Committee for Outdoor Developed Areas.

ADAAG apply to newly constructed structures and facilities and alterations to existing structures and facilities. Further, it applies to fixed structures or facilities, i.e., those that are attached to the earth or another structure that is attached to the earth. Therefore, when the DEC is planning the construction of new recreational facilities, assets that support recreational facilities, or is considering an alteration of existing recreational facilities or the assets supporting them, it must also consider providing access to the facilities or elements for people with disabilities. The standards which exist in ADAAG or are contained in the proposed ADAAG also provide guidance to achieve modifications to trails, picnic areas, campgrounds, campsites and beaches in order to obtain programmatic compliance with the ADA.

ADAAG Application

Current and proposed ADAAG will be used in assessing existing facilities or assets to determine compliance to accessibility standards. ADAAG is not intended or designed for this purpose, but using it to establish accessibility levels lends credibility to the assessment result. Management recommendations in this UMP will be proposed in accordance with the ADAAG for the built environment, the proposed ADAAG for outdoor developed areas, the New York State Uniform Fire Prevention and Building Codes, and other appropriate guiding documents. Until such time as the proposed ADAAG becomes an adopted rule of the Department of Justice, the DEC is

required to use the best information available to comply with the ADA; this information includes, among other things, the proposed guidelines.

Best Management Practices

All trail construction and relocation projects will be developed in accordance with the APSLMP, and will incorporate the use of Best Management Practices, including but not limited to such considerations as:

- Locating trails to minimize necessary cut and fill
- Wherever possible, lay out trails on existing old roads or clear or partially cleared areas
- Locating trails away from streams, wetlands, and unstable slopes wherever possible
- Use of proper drainage devices such as water bars and broad-based dips
- Locating trails to minimize grade
- Using stream crossings with low, stable banks, firm stream bottom and gentle approach slopes
- Constructing stream crossing at right angles to the stream
- Limiting stream crossing construction to periods of low or normal flow
- Using stream bank stabilizing structures made of natural materials such as rock or wooden timbers
- Using natural materials to blend the structure into the natural surroundings

All construction projects will be developed in accordance with the APSLMP, and will incorporate the use of Best Management Practices, including but not limited to such considerations as:

- Locating improvements to minimize necessary cut and fill
- Locating improvements away from streams, wetlands, and unstable slopes
- Use of proper drainage devices such as water bars and broad-based dips
- Locating trails to minimize grade
- Using stream crossing with low, stable banks, firm stream bottom and gentle approach slopes
- Constructing stream crossings at right angles to the stream
- Limiting stream crossing construction to periods of low or normal flow
- Avoiding areas where habitats of threatened and endangered species are known to exist
- Using natural materials to blend the structure into the natural surroundings

All parking lot construction and relocation projects will incorporate the use of Best Management Practices, including but not limited to such considerations as:

- Locating parking lots to minimize necessary cut and fill
- Locating parking lots away from streams, wetlands, and unstable slopes wherever possible
- Locating parking lots on flat, stable, well-drained sites using gravel for surfacing or other appropriate material to avoid stormwater runoff and erosion
- Locating parking lots in areas that require a minimum amount of tree cutting
- Limiting construction to periods of low or normal rainfall
- Wherever possible, using wooded buffers to screen parking lots from roads
- Limiting the size of the parking lot to the minimum necessary to address the intended use

Fisheries Projects

All fish stocking projects will be in compliance with the Programmatic Environmental Impact Statement on Fish Species Management Activities of the DEC, dated December 1979.

All pond reclamation projects will be undertaken in compliance with the Programmatic Environmental Impact Statement on Fish Species Management Activities of the Department of Environmental Conservation, Division of Fish and Wildlife, dated June 1980 and the Programmatic Environmental Impact Statement on Undesirable Fish Removal by the Use of Pesticides Under Permit Issued by the Department of Environmental Conservation, Division of Lands and Forests, Bureau of Pesticides Management, dated March 1981.

All liming projects will be in compliance with the Final Generic Environmental Impact Statement on the New York State Department of Environmental Conservation Program of Liming Selected Acidified Waters, dated October 1990, as well as the DFWMR liming policy.

3. Deed Restrictions and Agricultural Easements

Agricultural Agreement

Acquisition Parcel Washington 74. In 2002, TNC gifted a 137-acre parcel to New York State off Hutton Square Road in the town of Putnam, Washington County subject to a crop lease. TNC had negotiated the crop lease with the present owner upon purchasing the property during 2000. The lease is for a portion of the present parcel on the northeast end or Hutton Square Road and is scheduled to expire in April 2020.

Deed Restrictions

Acquisition Parcel Washington 67. TNC gifted this 86-acre parcel in 2002 to New York State. This parcel is located in Washington County, town of Dresden off LeClaire Road adjacent to Lake Champlain. Presently, this parcel is accessible only from Lake Champlain due to the active railroad line. Canadian Pacific Railway has declined to allow any foot or motor vehicle access across the tracks due to liability reasons. Crossing the RR tracks at the end of LeClair Road is illegal.

Easements

Acquisition Parcels Washington 38, 53.1, 53.3. These Washington County Forest Preserve parcels located on east side of Lake George on the Putnam, Dresden town line, including a parcel obtained from a 1899 tax sale have limited public access by way of lake front. Negotiations with Lyme Timber Company, on an adjacent parcel, may allow a foot trail as a means to gain public access to these parcels. This foot trail will likely have restrictions for certain periods of the year for public access.

Acquisition Parcel Washington 68. This Washington County parcel in Dresden and an 1899 tax sale parcel exist adjacent to each other in the Spruce Mtn. area. Total acreage of these two parcels is approximately 487. The foot trail on Lyme Timber Company lands, as explained above, would provide public access to these parcels at certain times of the year.

C. Administration

1. Administration

Administration of the Lake George Wild Forest is carried out by the DEC and in part by the Lake George Park Commission.

The Lake George Park was established, together with the Commission, by act of the New York State Legislature in 1961. The Park consists of Lake George and its land drainage basin within specific boundaries established under law. The Park covers some 300 square miles of land and water surface area, approximately 44 square miles of which are lake surface. Considering the lake, State owned recreational areas and the State Forest Preserve lands, approximately one half of the Lake George Park is in public ownership.

The purpose of the Commission generally is to preserve, protect, and enhance the unique natural, scenic and recreational resources of the Lake George Park. To do so the Commission has specific regulatory and enforcement powers relating to activities on the lake, along the shoreline and within the land drainage basin.

Several programs within the DEC share responsibility for the administration of the LGWF.

The Division of Lands and Forests manages the Forest Preserve lands. The Division also acquires, maintains and promotes responsible use of public lands.

The Division of Operations is responsible for designing, building and maintaining DEC facilities. The Division operates DEC campgrounds and maintains facilities such as roads, trails, lean-tos and parking lots.

The Division of Fish, Wildlife and Marine Resources protects and manages fish and wildlife species. It also protects and manages habitat and provides for public fishing, hunting and trapping opportunities.

The Division of Water protects water quality in lakes and rivers by monitoring waterbodies and controlling surface runoff.

The Division of Law Enforcement enforces Environmental Conservation Laws relating to hunting fishing and trapping; endangered species; possession, transportation and sale of fish and wildlife; and laws relative to environmental quality such as pollution.

The Division of Public Affairs and Education is the public communication link to the public. It promotes citizen participation in the UMP process.

The Division of Forest Protection and Fire Management is responsible for the preservation, protection, and enhancement of the State's forest resources and the safety of the public using the State's resources. Forest Rangers are the stewards of the State lands and are responsible for fire control and search/rescue functions.

The following principles provide specific guidance for managing the LGWF.

- Sustaining the existing environmental conditions and restoring areas of resources being degraded.
- Public use of motor vehicles will not be encouraged.
- Managing the unit as a composite resource and employing an interdisciplinary set of skills in recognition of the complexity of the relationships between the unit's resources and the recreating public.

This Unit Management Plan is intended to serve as the basic management tool for the LGWF for a five-year period following public comment, APA determination of conformity with the APSLMP and approval by the DEC's Commissioner. Implementation will commence following approval by the Commissioner.

An interdisciplinary team has developed the management proposals listed in Section V to meet APSLMP criteria and guidelines. All management objectives are designed to help meet the goals of preserving the area's wild forest character while providing a range of acceptable recreation opportunities. All planned actions require monitoring to determine their effectiveness in ensuring that the natural characteristics that define this Wild Forest are protected.

Future issues, actions, or opportunities will be considered on a case-by-case basis to determine if they are consistent and compatible with the APSLMP and the goals and objectives of this plan. The APSLMP has procedures to amend unit management plans if resource and/or social conditions change during the five-year tenure of each plan.

D. Special Management Areas

Purpose and Need:

Certain areas of the LGWF see intense use during the summer months. The level of use is so intense in these areas that it exceeds the ability of the existing resources to withstand such use. Managers of natural resources and recreational facilities refer to the ability of a resource or facility to withstand use as its 'carrying capacity'. The carrying capacity of a natural resource or recreational facility is broadly defined by the number of users and the manner of use which can be experienced without an unacceptable level of change in the condition of the resource or facility.

Using the designation and regulation of campsites as an example, the DEC has established maximum group sizes and the provided campsite facilities (fire pits, privies, etc.) as a means of protecting the campsites from unacceptable change, or degradation, to a level at which camping is no longer possible or desirable. So long as the number of users is not exceeded and facilities are used in a proper manner, the carrying capacity of a campsite is not exceeded and the short term impacts of use (charcoal in fire pits, sanitary waste in privies and cat holes, etc.) present an acceptable level of change which can be remediated with minimal maintenance.

When group sizes frequently exceed established maximum numbers, or when the frequency with which an area is visited rises above the time it takes for the area to recover (e.g., vegetation recovering from trampling) the carrying capacity of the resource is exceeded and the resource is usually damaged. Common impacts posed to a campsite and its surroundings by over-sized (Cole, 1987, 1989, Hendee *et. al*, 2002, and USDA Forest Service, 1994) groups and frequent use include soil compaction and erosion, vegetation damage from trampling, firewood gathering and clearing for tent sites, an expansion of fire rings, over loading of sanitary facilities, and improper disposal of sanitary waste and trash. An impact unique to oversize groups is noise. Over-size groups often pose an increase in the amount of noise generated from a single campsite. While this last aspect of over-sized groups does not impact the campsite itself, it can impact the

experience of other visitors in nearby campsites, and is therefore a short-term, unacceptable change in the resource.

Shelving Rock and the former Hudson River Recreation Area (HRRA) are two such areas in which the monitoring of impacts and the enforcement of group size and use regulations are required. These areas are intensely popular destinations for large groups, and frequently for oversized groups. The levels and types of use have created impacts which exceed an acceptable level of change, and require remedial and reconstructive efforts well beyond what is appropriate for a Wild Forest resource. Therefore, the camping areas of Shelving Rock and the HRRA have been given the designation of "Special Management Areas" within the Wild Forest. Specific use regulations and management actions need to be developed in order to prevent unacceptable changes in these Wild Forest resources.

The Shelving Rock Special Management Area (SRSMA) includes Wild Forest lands within 500 feet of Shelving Rock Road and lands within 500 ft of Dacy Clearing Road, as well as the Shelving Rock Day Use Area, which is delineated as follows: Where Shelving Rock Brook flows downstream from Shelving Rock Road to Shelving Rock Bay, Lake George; northeast along the shoreline to the Forest Preserve Boundary, east to the Shelving Rock Road and then back along Shelving Rock Road to the junction of Shelving Rock Brook.

The Hudson River Special Management Area generally includes the Wild Forest lands bounded by the Hudson River on the west, State Route 9N to the south, Old Stage/Viele Pond Road to the east, and the Schroon River to the north. This encompasses roughly 5,500 acres of Wild Forest lands, including several small state-owned islands in the Hudson River.

DEC Office of Public Protection, NY State Police, and local police have documented illegal activities such as illegal motor vehicle use, underage drinking, drug use, driving while intoxicated, theft, and assault at sites in both areas. These actions are illegal and contrary to Wild Forest use regulations concerning party size, campsite location, sanitation, and motor vehicle use. Collectively, these actions may be referred to as non-compliant behaviors as they run contrary to what is expected of visitors to Wild Forest areas. Non-compliant behaviors degrade the physical character of Wild Forest areas, and seriously impair the wild forest experience sought by many visitors to the unit.

These overuse problems are related to several characteristics these areas share. The first is the commonality of good access roads which in turn connect with paved public highways. Access is therefore easy for both day and overnight users of these areas. These areas lack fees for day use and camping, nor does anyone wishing to camp in these areas require a permit to do so unless they intend to stay for more than three days or their group exceeds nine persons. Another notable characteristic and a very strong attraction for these areas is that they are both near popular and scenic bodies of water. These features are what make the areas attractive to all users of the Wild Forest. However, because these areas are on public land with few regulations limiting use, and because they lie outside the normal patrol limits of local law enforcement agencies, a small

subset of LGWF users enter these areas to engage in activities which are illegal under New York State law. In short, these two areas are removed from the normal patrol ranges of local law enforcement agencies. Lacking the regular presence of law enforcement, these areas are attractive to those seeking to engage in the non-compliant behaviors described above. It is the degree and type of impact brought to these areas by this subset of users that makes these areas undesirable destinations for legitimate users.

Management activities in the Shelving Rock and the HRSMA camping areas have been historically reactive in nature. Law enforcement is notified when violations and disturbances are noticed by adjoining landowners and/or other visitors in these areas. Similarly, the maintenance of these sites is largely in response to the damage caused by these violations. The repair and replacement of damaged facilities (e.g., outhouses, signs, etc.) is performed when damage is observed and reported by Forest Rangers and/or visitors. The cost to repair damaged campsites, replace lost facilities (picnic tables, fire rings, etc.) and remove trash from these sites creates a disproportionate burden on the limited resources of the DEC.

In the past few years, the DEC has had special details at each of these areas, using Forest Rangers, Assistant Rangers and ECOs to inspect campsites and other popular areas in which users congregate to ensure compliance with use and safety regulations. When law enforcement staff is available for these details it has curbed some of the overuse problems in these areas. However, wildfire suppression, search and rescue efforts, and other law enforcement responsibilities limit the use of 'special details' and other proactive management strategies in these areas.

Due to the history of non-compliant behavior and unusual public use factors of both areas as outlined above, they require special management and have been designated as Special Management Areas. Management actions meant to address the specific problems of each are described and proposed in the Special Management Area Plans in Section VII.

E. Management Issues and Desires

Several issues of concern confront the DEC and the public in the development of this plan. Public comments, written and verbal, were provided during the General UMP open houses held throughout the State of New York during January 2001 and again during the Lake George Wild Forest UMP open house held on March 1, 2002 in Queensbury, NY. Additional public, municipal and concerned party comments have been received directly by the unit planning team. The following partial list of issues, needs and desires were received from the public and DEC staff. A more detailed description of specific issues is included in Section IV of this Plan.

- Access for People with Disabilities
    - Support motor vehicle (car, truck, ATV) access for people with disabilities.

- Support existing access for people with disabilities.

- Motor Vehicles –General
  - Designate and create new separate ATV/ 4x4 trails to avoid conflicts with pedestrians, horses, etc.

- Segregate/Designate Types of trail uses (hikers/skiers, bicycles, horses, motorized vehicle, snowmobile, etc.)
  - All newly developed trails should comply with State Standards and Guidelines as outlined in the New York Draft *Statewide Comprehensive Outdoor Recreation Plan* (SCORP) trail standards and guidelines, (NYSOPRH, 2003).

- Motorized Vehicles – ATV's
  - Research impacts of ATVs on Wild Forest lands.
  - Keep ATVs off trails allowing non-motorized use only.
  - Enforce ATV regulations in the Forest Preserve.

- Motorized Vehicles – Snowmobiles
  - Local snowmobile clubs desire improved trails with an improved trail system linking points of interest (i.e. lake shore trail, western side of Tongue Mountain).
  - Keep snowmobile trails to character, grade, and width of footpaths and do not open these summer hiking and winter snowmobile trails to ATV use.

- Motorized Vehicles – Boats
  - Limit/restrict use of motorized watercraft in ecologically sensitive areas (i.e. Dunham Bay Marsh, Northwest Bay Brook canoe access to Northwest Bay).

- Enforcement
  - Develop a strategy to deal with underage drinking and partying on Forest Preserve lands (i.e. Shelving Rock, Hudson River Special Management Area, Hogtown, and Sly Pond Road).
  - Management strategy will require supporting regulations to allow enforcement
  - Designate portions of the LGWF as "Day Use Only" (i.e. Shelving Rock, Hudson River Special Management Area).
  - Re-designate individual and group camping sites, and allow camping at those designated sites only.
  - Hire a seasonal employee to assist and educate the public in high use areas.
  - Provide additional time to law enforcement to enforce illegal activities on Forest Preserve lands.

- Other
  - Provide additional individual and group camping opportunities within the LGWF, and designate these camping areas as per criteria outlined in the APSLMP.

- Communicate with local groups (i.e. youth groups, snowmobile clubs, mountain bikers, hiking clubs, etc.) regarding opportunities within the LGWF.
- Promote the use of volunteers (schools, clubs, etc.) and provide funding sources to maintain volunteer programs.

Issues identified above, and those proposed management actions dealing with creation, maintenance, and improvement of specific hiking, horseback riding, snowmobile, and mountain biking trails will be discussed in more detail Section V.

SECTION IV: MANAGEMENT PROPOSALS

This section of the plan presents the steps the DEC proposes to take to allow the public to utilize the resources of the unit, while ensuring the protection and conservation of the unit's natural and physical (i.e., man-made) resources. The natural resources of the unit include the soils, surface waters, vegetation, and wildlife found within the unit boundaries. The man-made and maintained physical resources of the unit include objects such as roads, dams, campsite facilities, lean-tos, and other improvements and structures provided to accommodate and enhance outdoor recreation for visitors to the unit.

Where the conditions outlined above are found to be non-compliant with the 'Wild Forest' standards, management actions are proposed to improve or restore conditions to an acceptable level, or to protect a resource or facility from degradation below acceptable Wild Forest standards. Management actions are intended to bring the LGWF unit into compliance with DEC regulations, the APSLMP guidelines, the requirements of the Americans with Disabilities Act (ADA), and the Consent Decree (Civil Action No. 98-CV-1117).

Management objectives and actions presented in this section are compatible with the management guidelines established for Wild Forest areas in the Adirondack Park State Land Master Plan (APSLMP). The proposed management actions also seek to address specific issues identified during the inventory process, public hearings, and consultations with the members of the Lake George Wild Forest (LGWF) Unit Management Planning Team.

A. Biophysical Resources

1. Water Resources

In the more remote Wild Forest lands, water quality can be affected by the process of erosion and contamination from trails, campsites and privies. In most cases trail maintenance and the observance of minimum set-back distances for campsites, lean-tos and privies as outlined in DEC regulations will provide adequate protection and correct water quality impacts.

There are many surface waters within the unit that are surrounded by or which adjoin Wild Forest lands. Some of the more popular surface waters include the segment of the Hudson River (classified as a Recreational River) adjacent to the HRSMA, portions of Lake George including Shelving Rock and the extensive wetlands of Northwest and Dunham's Bays, as well as a number of popular fishing ponds such as Jabe, Palmer, Island, Lily and Long Ponds. While no degradation of water quality is currently known to be associated with the Wild Forest lands adjoining these waters, direct use (boating, swimming, etc.), and indirect impacts from other activities have the potential to impact the waters of Wild Forest areas. There are also portions of the unit in which areas of waters within Wild Forest are situated near heavily used areas that include marinas and other facilities which store fuels and other chemicals.

Stormwater mitigation is another way to protect waters of the unit from sedimentation. Throughout the unit, there are several man-made impoundments. These man-made impoundments were constructed prior to the creation of the Adirondack State Park and the adoption of the APSLMP. Originally built for purposes as varied as fire protection and drinking water sources, they have provided an important secondary stormwater management function.

A recent proposal by the Lake George Association (LGA) has requested that the DEC repair these impoundments through continued maintenance of access roads, reinforcing the dams, and the construction of permanent water diversion structures in order to facilitate the regular dredging and disposal of the sediments trapped by these structures. The LGA has also proposed these measures to protect the waters of the Lake George watershed. The LGA proposals would serve to reduce unit soil loss by slowing overland drainage, and trapping sediment laden drainage waters. Further, the proposed structures help reduce non-point source pollution associated with run off from town highways traversing the unit. As these measures would also serve to protect the fisheries of the unit, they may be considered permissible under the APSLMP. Under the APSLMP stream improvement structures for fisheries management purposes (APSLMP, Item #33, pg. 19) are permitted. Dredging and other work done to maintain reservoirs is done by the Warren County Soil and Water Conservation District.

Objectives:

- Stabilize and improve water quality by controlling impacts from erosion and poor backcountry sanitation.
- Enhance the protection of riparian areas, including river corridors designated as wild, scenic and/or recreational within the unit pursuant to ECL 15-2713 (2)(d) and 6 NYCRR § 666 Regulation for Administration and Management of the Wild, Scenic and Recreational Rivers System as the Hudson River is classified Recreational in portions of the LGWF.
- Reduce the potential for pathogenic contamination (e.g., *Giardia lamblia*) from all water sources.
- Increase efforts to educate users regarding appropriate water quality protection practices.
- Work with organizations such as the Lake George Association, federal agencies such as the NRCS, and local government to reduce impacts of storm water runoff.
- Mitigate the effects of stormwater runoff on the quality of unit surface waters.

Alternatives:

The surface waters of the unit are a focal point for many visitors, and therefore receive a great deal of use. The aesthetic appeal of these surface waters is a key element in their use and appreciation by visitors to the unit. Certainly turbidity, and oil sheens created by unmitigated storm water impacts detracts from that appeal. Over time, turbidity increases and chemical pollution will degrade water quality and impact fish and other aquatic organisms. Along with

direct impacts to the resource, a secondary effect would be the recreational and aesthetic limitations pollution imposes on public use and enjoyment of unit surface waters. Therefore, the "no action" alternative is not a viable solution to potential and existing pollution impacts.

Similarly, the "no action" option will not solve the impending problems associated with the existing man made basins of the Lake George watershed. Without the reinforcement of dams and the removal of the sediments these basins have retained for several decades, the dams will ultimately fail and allow the retained sediments to enter the streams of the Lake George watershed, and ultimately the lake itself.

The management action identified below involving the installation of permanent diversion structures at reservoirs will require consultation and approval with the APA .

Management Actions

- Close or rehabilitate any sensitive lakeshore and streamside areas within the unit should they become severely impacted by soil erosion resulting from recreational use.
- Harden portions of trails intersected by intermittent drainage runs and streams. An intermittent drainage run is an occurrence of running water created by snow melt or rainfall, but which lacks the defined bed and bank commonly found in a stream. An intermittent stream usually carries more water than an intermittent drainage run, and has a defined bed and bank. Both of these features carry water only following snow melt and rainfall. Stepping stones crossing these features which become dislodged, or driven into the earth over time, must be replaced as needed to prevent erosion and sediment transport to waters of the unit. Discussion of trails needing erosion work are covered under trails in the Proposed Management section.
- Construct and maintain erosion control structures on trails and other areas frequented by visitors.
- Maintain sediment catch basin reservoirs in the Lake George Wild Forest. Maintenance will include removing detained sediment from the reservoirs on a regular basis, maintenance of access roads and installation of permanent water diversion structures that would allow for more efficient removal of sediment.
    - Remediate the sediment delta associated with the outlet of Gage Brook Reservoir, a man-made basin within the West Brook watershed, via the installation of permanent diversion structures.
    - Install permanent concrete diversion structures in the man-made sediment basin (former water supply reservoir) at Hubbell (a.k.a. Big Hollow) Reservoir. This reservoir is sited in an area of highly erosive soils, and is upstream of a large lake delta associated with English Brook.
    - Dredge Shelving Rock Reservoir, and install a permanent diversion structure and other improvements to facilitate maintenance. This reservoir

currently provides stormwater mitigation for the popular lake bays adjacent to Shelving Rock. The maintenance of this reservoir would therefore serve to protect a popular visitor attraction from stormwater impacts.

- Advise the public through DEC information and education programs to treat all water prior to consumptive use.
- Install signage at trailheads advising visitors of water quality regulations pertaining to sanitary practices (e.g., use of latrines and cat-holes).
- Install signage at trailheads on trails allowing equestrian use instructing visitors to dispose of their mount's waste 150' distant of any surface water body.
- Install signage advising horseback riders that the use of waste catchment systems for horses is recommended on trails which cross, or come within 150' of surface waters.
- Install signage at trailheads referring to the Leave No Trace (LNT) guidelines for dishwashing, camping, etc.

2. Soils

Present Conditions:

No studies have been performed which address soil loss and deposition within the entire unit. However, DEC staff, as well as concerned organizations and agencies have reported areas of soil disturbance on trails, summits, streamsides, and campsites which require rehabilitative and preventative actions. Trail widening, trail use during wet weather, camping too close to sensitive riparian areas, and summit trampling are contributing factors to soil loss. Some trail-less peaks within the unit have unmarked herd paths to their summits (e.g., Elephant Mt., Anthony's Nose), while other areas such as Pilot Knob Mountain have illegally marked trails. Regardless of location, these unofficial and sometimes illegal trails receive no maintenance or erosion control. Funding for trail maintenance to control erosion is currently inadequate to meet the needs of designated trails, much less non-designated trails.

Objectives:

- Keep soil erosion and compaction caused by recreation use within acceptable limits that closely approximate the natural erosion process.

Management Actions:

- Enact seasonal, voluntary trail closures on severely eroded trails (e.g., Prospect Mt.), in order to protect vegetation and reduce erosion. This practice may be applied to any trail when the soils are saturated (e.g., soaked with water). Soils are usually saturated from November 1 - December 15 (frost-in) and April 1 - May 15 (frost-out). Time frames may be altered at the discretion of the unit manager. A list of alternative trails on drier sites will be provided to those who want to hike during these times of the year.

- Draft site specific plans for the relocation of trails and trail segments where such action is required to protect water quality.
- Target trail maintenance to heavily eroded trails; develop a priority list based on resource need rather than on user convenience.

3. Vegetation

Present Conditions:

The LGWF is known to contain a number of exemplary, unique, rare, and endangered species of plants (See Section II). These plant species are protected by federal (50 CFR § 17) and state law (6 NYCRR § 190.3). At times these species occur as isolated individuals or in small groups. In other cases a particular assemblage of species may be afforded protection. Section II of this plan presents details of the exemplary, unique, rare, and endangered species of plants and natural communities found within the unit. While most of these species occur in areas not commonly visited or impacted by users of the unit, their relative rarity makes their protection all the more important.

Impacts to the vegetation of natural communities come from a variety of sources; however, most are related to visitor activities within the unit. Concentrated human activity in areas such as trail corridors, riparian areas, and mountain summits is perhaps the chief source of vegetation impacts within the unit. On some summits, and at certain overlooks, soil compaction and erosion related to foot traffic has caused the loss of vegetative cover. Examples of this sort of impact can be seen on the unofficial side trails leading to the scenic overlooks on the southern side of Black Mountain.

Recreation during wet weather (late fall and early spring), on certain steep slopes (e.g., Prospect Mt.) and on some low-lying trails, exacerbates erosion on the trail, and plant loss adjacent to trails. The loss of vegetation adjacent to trails occurs largely as a result of hikers creating herd paths to detour around puddles and muddy spots on the trail. Soils on some of these sites are so severely disturbed or compacted that vegetation is not capable of colonizing the bare earth left behind.

In addition to these pressures, wild fires resulting from poor campfire management, lightning, and other causes occasionally threaten vegetation throughout the unit. A recent (Summer 2002) wild fire burned several acres of forest in the vicinity of Sleeping Beauty Mountain.

Given the area's heavy use by boaters and hikers, the impact of non-native, exotic species should also be assessed. Non-native, exotic plant species have already been introduced to the unit (e.g., Common Reed (*Phragmites communis),* Purple Loosestrife *(Lythrum salicaria),* Eurasian water milfoil *(Myriophyllum spicatum*). These plants have managed to compete with and displace indigenous vegetation. This situation requires additional research to determine the extent of the problem, and to identify potential means of controlling the impact on the ecological integrity of the unit.

Plant inventories and ecological mapping are useful tools in the protection effort. The inventory and mapping of vegetation is an on-going, if sporadic, effort within the unit. Normally, the DEC conducts vegetation inventories and mapping in limited areas where the impact of management actions must be assessed prior to obtaining permits to proceed with a proposed project. Other inventories and mapping efforts are performed by universities, organizations, and individuals. These efforts to catalog the vegetation of the unit also tend to be focused on a single site or species, and the results may or may not be shared with the DEC or the unit management planning team. Therefore, many portions of the unit have not been adequately inventoried for the presence of exemplary, unique, rare, and endangered species of plants.

Objectives:

- Allow natural succession of plant communities to continue relatively free of human intervention.
- Identify and map exemplary, unique, rare, and endangered plant species and communities within the unit, and preserve and protect known locations of these resources.
- Form partnerships with private and public institutions for the purpose of conducting vegetative inventories within the unit.
- Identify and protect communities containing economically exploitable vegetation (e.g., ginseng) within the unit.
- Promote natural succession in the restoration of natural plant associations and communities where they have been aversely impacted by human activity.

Management Actions:

- Develop LAC indicators and standards for the condition of vegetation in campsites. The LAC will consider changes in the diversity and percent cover of native vegetation and will establish a threshold for remedial action.
- All vegetation protection and restoration programs will emphasize information and education as the primary means to reduce impacts and slow unacceptable levels of change.
- Monitor areas of the unit disturbed by natural (e.g., wild fire) and man made (e.g., timber trespass) impacts. Provide restoration to secure disturbed areas where the original impact may create collateral damage through erosion, sedimentation or landslide.
- Identify public and private entities capable of partnering with DEC Region 5 for the purpose of creating more detailed inventories of the unit's vegetative cover including rare, threatened, and endangered species. Solicit the involvement of public and private entities in the creation of a more detailed inventory of the unit's vegetative cover.
- Encourage public-sponsored education and information programs by providing Departmental personnel and facilities as support.
- Correlate ecological inventorying and mapping with recreation, and fish and

wildlife project plans to prevent unintended and undesirable impacts to exemplary, unique, rare, and endangered vegetative species within the unit.

Vegetative Inventory- Invasive Plants

Nonnative, invasive species directly threaten biological diversity and the high quality natural areas in the Adirondack Park. Invasive plant species can alter native plant assemblages, often forming monospecific stands of very low quality forage for native wildlife, and drastically impacting the ecological functions and services of natural systems. Not yet predominant across the Park, invasive plants have the potential to spread - undermining the ecological, recreational, and economic value of the Park's natural resources.

Because of the Adirondack Park's continuous forested nature and isolation from the normal "commerce" found in other parts of the State, its systems are largely functionally intact. In fact, there is no better opportunity in the global temperate forested ecosystem to forestall and possibly prevent the alteration of natural habitats by invasive plant species.

Prevention of nonnative plant invasions, Early Detection/Rapid Response (ED/RR) of existing infestations, and monitoring are primary objectives in a national strategy for invasive plant management and necessitates a well-coordinated, area-wide approach. A unique opportunity exists in the Adirondacks to work proactively and collaboratively to detect, contain, or eradicate infestations of invasive plants before they become well established, and to prevent further importation and distribution of invasive species, thus maintaining a high quality natural landscape. The DEC shares an inherent obligation to minimize or abate existing threats in order to prevent widespread and costly infestations.

The DEC has entered into a partnership agreement with the Adirondack Park Invasive Plant Program (APIPP). The mission of APIPP is to document invasive plant distributions and to advance measures to protect and restore native ecosystems in the Park through partnerships with Adirondack residents and institutions. Partner organizations operating under a Memorandum of Understanding are the Adirondack Nature Conservancy, Department of Environmental Conservation, Adirondack Park Agency, Department of Transportation, and Invasive Plant Council of NYS. The APIPP summarizes known distributions of invasive plants in the Adirondack Park and provides this information to residents and professionals alike. Specific products include a geographic database for invasive plant species distribution; a central internet website for invasive plant species information and distribution maps; a list-serve discussion group to promote community organization and communication regarding invasive species issues; and a compendium of educational materials and best management practices for management.

Terrestrial Invasive Plant Inventory

In 1998 the Adirondack Nature Conservancy's Invasive Plant Project initiated Early Detection/Rapid Response (ED/RR) surveys along Adirondack Park roadsides. Expert and trained volunteers reported 412 observations of 10 plant species throughout the area surveyed, namely NYS DOT Right-of-Ways (ROW). In 1999 the Invasive Plant Project was expanded to include surveying back roads and the "backcountry" (undeveloped areas away from roads) to identify the presence or absence of 15 invasive plant species. Both surveys were conducted under the auspices of the Invasive Plant Council of New York "Top Twenty List" of non-native plants likely to become invasive within New York State. A continuum of ED/RR surveys now exists under the guidance of the Adirondack Park Invasive Plant Program (APIPP).

Assessments from these initial ED/RR surveys determined that four terrestrial plant species would be targeted for control and management based upon specific criteria such as geophysical setting, abundance and distribution, multiple transport vectors and the likelihood of human-influenced disturbance. The four priority terrestrial invasive plants species are purple loosestrife (Lythrum salicaria), common reed (Phragmites australis), Japanese knotweed (Polygonum cuspidatum) and garlic mustard (Alliaria petiolata).

The Adirondack Park is susceptible to further infestation by invasive plant species intentionally or accidentally introduced to this ecoregion. While many of these species are not currently designated a priority species by APIPP, they may become established within or in proximity to a unit and require resources to manage, monitor, and restore the site.

Infestations located within and in proximity to a unit may expand and spread to uninfected areas and threaten natural resources within a unit; therefore it is critical to identify infestations located both within and in proximity to a unit and then assess high risk areas and prioritize Early Detection Rapid Response (ED/RR) and management efforts.

Terrestrial Invasive Plant Locations

There is one (1) garlic mustard infestation within the unit.

At 4833983 N 612358 E, dense garlic mustard infestations occur from Padanarum Road extending into forest-fringe under story in the town of Bolton. These backcountry, logging road infestations extend to 4834101 N 612427 E.

There are four (4) common reed (phragmites) infestations within the unit.

At 4833969 N 612757 E, a light infestation, approximately 30 stems, of phragmites is spreading from the eastern Right-of-Way of State Route 9N into associated wetlands in the town of Bolton.

At 4828194 N 619036 E and 4828280 N 619003 E, dense mono-typical phragmites infestations occur in backcountry wetlands off of Pike Brook Trail in the town of Dresden.

At 4809596 N 609210 E, a dense mono-typical phragmites infestation occurs within Dunham Marsh in the town of Queensbury.

There is one (1) Japanese knotweed infestation within the unit.

At 4821745 N 615246 E, a spotty Japanese knotweed infestation occurs beyond the primary parking area off of Shelving Rock Road in the town of Fort Ann.

There are twenty-four (24) purple loosestrife infestations within the unit.

At 4833576 N 591049 E, a light infestation of purple loosestrife occurs in a marsh inlet to Palmer Pond in the town of Chester. The infestation is approximately .25 mile from the parking area at the terminus of Palmer Pond Road.

At 4824053 N 609300, dense purple loosestrife infestations occur in cultural and wetland settings at the DEC facility on Green Island in the town of Bolton. The infestations extend approximately 100 feet into a drainage way into Lake George.

At 4829719 N 621005 E, a light purple loosestrife infestation occurs in wetlands along Pike Brook Trail in the town of Dresden.

The Lake George Land Conservancy has documented twenty-one purple loosestrife infestations interspersed throughout Dunham's Bay Marsh in the town of Queensbury. The infestations are largely comprised of spotty to light biomass, having less than approximately 20 stems in an occurrence, though the large, unique, natural area of distribution suggest an aggressive and difficult invasive front to control utilizing manual or herbicidal controls. The GPS way points of documented Dunham's Bay Marsh incursions are as follows: 4809326 N 609790 E; 4809079 N 609778 E; 4809115 N 609767 E; 4809059 N 609770 E; 4808552 N 609896 E; 4808207 N 609844 E; 4808199 N 609845 E; 4808192 N 609834 E; 4808183 N 609822 E; 4808142 N 609845 E; 4808038 N 609887 E; 4808039 N 609874 E; 4808035 N 609861 E; 4808035 N 609881 E; 4808030 N 609892 E; 4809092 N 609815 E; 4809085 N 609800 E; 4808981 N 609784 E; 4808925 N 609709 E; 4809120 N 609770 E and 4808039 N 609867 E.

There are nineteen (19) garlic mustard ROW infestations and one (1) private property garlic mustard infestation in proximity to the unit.

There are sixty-four (64) Japanese knotweed ROW infestations and two (2) private property Japanese knotweed infestations in proximity to the unit.

There are twenty (20) common reed ROW infestations and eight (8) private property common reed infestations in proximity to the unit.

There are thirty-one (31) purple loosestrife ROW infestations and seventeen (17) private property purple loosestrife infestations in proximity to the unit.

There are twenty-five (25) shrub honeysuckle ROW infestations and fourteen (14) private property honeysuckle infestations in proximity to the unit.

Please refer to the terrestrial invasive plant species distribution map and Excel spread sheet record (Addenda).

Aquatic Invasive Plant Inventory

A variety of monitoring programs collect information directly or indirectly about the distribution of aquatic invasive plants in the Adirondack Park including the DEC, Darrin Fresh Water Institute, Paul Smiths College Watershed Institute, lake associations, and lake managers. In 2001, the Adirondack Park Invasive Plant Program (APIPP) compiled existing information about the distribution of aquatic invasive plant species in the Adirondack Park and instituted a regional long-term volunteer monitoring program. APIPP trained volunteers in plant identification and reporting techniques to monitor Adirondack waters for the presence of aquatic invasive plant species. APIPP coordinates information exchange among all of the monitoring programs and maintains a database on the current documented distribution of aquatic invasive plants in the Adirondack Park.

Aquatic invasive plant species documented in the Adirondack Park are Eurasian watermilfoil (Myriophyllum spicatum), Water chestnut (Trapa natans), Curlyleaf pondweed (Potamogeton crispus), Fanwort (Cabomba caroliniana), European frog-bit (Hydrocharus morsus-ranae), and Yellow floating-heart (Nymphoides peltata). Species located in the Park that are monitored for potential invasibility include Variable-leaf milfoil (Myriophyllum heterophyllum), Southern Naiad (Najas guadalupensis), and Brittle Naiad (Najas minor). Additional species of concern in New York State but not yet detected in the Park are Starry Stonewort (Nitellopsis obtusa), Hydrilla (Hydrilla verticillata), Water hyacinth (Eichhornia crassipes), and Brazilian elodea (Egeria densa).

Infestations located within and in proximity to a unit may expand and spread to uninfected areas and threaten natural resources within a unit; therefore it is critical to identify infestations located both within and in proximity to a unit to identify high risk areas and prioritize Early Detection Rapid Response (ED/RR) and management efforts.

Aquatic invasive plants are primarily spread via human activities, therefore lakes with public access, and those connected to lakes with public access, are at higher risk of invasion. Documentation of aquatic invasive plant distributions in the Park is limited by the number of

lakes and ponds that have been surveyed and the frequency of monitoring. In some cases, only a portion of the water's shoreline has been surveyed. In other cases, a single specimen may have been identified without documentation as to its location within the waterbody. It follows that a negative survey result indicates only that an invasive plant has not been detected and does not preclude the possibility of its existence.

While a comprehensive survey for the presence of aquatic invasive plant species has not been completed at present, APIPP volunteers monitored the following waters within or in proximity to the unit: Brant Lake, Friends Lake, Pack Forest Lake, and Lake Nebo. Eurasian watermilfoil was recorded in Loon Lake. Eurasian watermilfoil and curlyleaf pondweed were recorded in Brant Lake and Lake George (for a comprehensive report on survey activities in Lake George, please reference the following publication, *Lake George Integrated Aquatic Plant Management Program: Lake George Park Commission prepared by Lycott Environmental Inc. Southbridge MA, USA November 2005*). Zebra mussels were also detected in Lake George.

The APIPP Park-wide volunteer monitoring program aims to maintain a long-term monitoring program on these and other lakes. All aquatic invasive species pose a risk of spreading via transport mechanisms which may include seaplanes, motorized and non-motorized watercraft (canoes, kayaks, jet skies, motor boats etc.) and associated gear and accessories.

Aquatic Invasive Plant Locations

Longitude and latitude coordinates are used to indicate a lake with a documented infestation. Infestations may range from an isolated population to a lake-wide invasion. Knowledge of locations and coordinates of specific infestations within the lake is limited and variable and will be provided as available.

Eurasian watermilfoil was confirmed in the following lakes:

Loon Lake	434046N 0735137W
Lake Luzerne	431924N 0735003W

Eurasian watermilfoil and curlyleaf pondweed were confirmed in the following lakes:

Brant Lake	434249N 0734219W
Lake George	435013N 0732551W

Zebra mussels were confirmed in the following lake:

Lake George	435013N 0732551W

Management Recommendations

The DEC will enter into cooperative partnerships through Adopt-A-Natural-Resource Stewardship Agreements (AANR) and Temporary Revocable Permits (TRP) to facilitate containment and eradication of the invasive plant occurrences within the unit. Any eradication work involving the use of herbicides will be carried out under an Inter-Agency Work Plan for Management of Terrestrial Invasive Plant Species on State Land in the Adirondack Park (Invasive Plant Work Plan), developed by DEC and APA. This Invasive Plant Work Plan will provide a template for the process through which comprehensive active terrestrial invasive plant management will take place on state lands in the Adirondack Park. The Work Plan will provide protocols for implementing BMP's on state land. The protocols will describe what management practices are acceptable and when they can be implemented, who can be authorized to implement the management practices, and which terrestrial invasive plant species are targeted. The Work Plan will also describe a process by which the DEC may enter into AANR's to facilitate individuals or groups seeking to manage terrestrial invasive plant species on state lands using the listed Best Management Practices, including herbicide use, in the appropriate circumstances. The Invasive Plant Work Plan will be subject to SEQRA and serve as the mechanism for assessing the impacts and suitability of eradication BMP's and actions.

Prior to implementing containment and/or eradication controls, terrestrial invasive plant infestations occurring within the unit need to be assessed on a site-by-site basis. The geophysical setting and the presence, or absence, of sensitive native flora within or adjacent to the targeted infestation often predicts the Best Management Practices (BMP's) and limitations of the control methodology. Infestations occurring within specific jurisdictional settings may trigger a permitting process, as do most terrestrial infestations occurring within an aquatic setting. The species itself often dictates whether manual management controls, e.g. hand-pulling or cutting, or the judicious, surgical application of herbicides is warranted in order to best control that specific species in that specific setting. No single BMP guarantees invasive plant containment or eradication. Many infestations require multiple, seasonal control efforts to reduce the density and biomass at that setting. Adaptive Management protocols suggest that implementation of integrated control methodologies may provide the best over-all efficacy at specific infestations.

All management recommendations are based on knowledge of non-native invasive species present within the unit and their location, species, abundance and density. A complete inventory of the unit is necessary to identify aquatic and terrestrial invasive plant threats facing the unit. Inventory will be based on existing inventories, formal or informal inventories during routine operations, and by soliciting help from volunteers to actively study the unit and report on invasive species presence, location, and condition.

Management Actions

Lake George Land Conservancy and APIPP staff will begin manual management controls of the documented garlic mustard sites began in early June 2006. The gleaned invasive plant material

will be securely bagged, safely removed from the sites and disposed of at appropriate facility. Follow-up inspections of the controlled garlic mustard sites will be conducted within three weeks of the primary control effort.

Lake George Land Conservancy and APIPP staff will inspect and assess the Japanese knotweed infestation near the Shelving Rock Road parking area and implement manual management controls suitable for the site.

The DEC will survey and assess the documented common reed infestations in order to determine the most feasible containment or eradication controls suitable for those sites.

The DEC will collaborate with the Lake George Land Conservancy to survey the multiple, Dunham's Bay Marsh Purple loosestrife infestations in order to determine the feasibility of the application and liberation of adult *Galerucella* beetles as a suitable biocontrol for the contiguous infestations.

Adirondack Nature Conservancy staff will continue to provide manual management efforts at the Palmer Pond, marsh inlet purple loosestrife infestation. The DEC will implement a thorough inventory of shorelines and associated wetlands for the presence of uncharted purple loosestrife and assist with additional manual management efforts as needed.

The DEC will implement a continuum of Early Detection/Rapid Response inventories in the unit.

Additional surveys should assess the extent of invasive aquatic plants in state-owned waters. The DEC will collaborate with lake associations and municipalities currently managing aquatic invasive plants (for a comprehensive report on management activities in Lake George, please reference the following publication, *Lake George Integrated Aquatic Plant Management Program: Lake George Park Commission prepared by Lycott Environmental Inc. Southbridge MA, USA November 2005*). A rigorous educational campaign will be implemented to prevent the transport of aquatic invasive species. Aquatic invasive species signage will be posted at all public access locations. The Department's education and outreach efforts will be coordinated with ongoing efforts in the Lake George Basin involving, but not limited to, the following organizations: Lake George Park Commission, Lake George Association, Lake George Watershed Conference, Fund for Lake George, and Darrin Fresh Water Institute among other groups.

All waters with public access will be inventoried for the presence of aquatic invasive plants. When identified, all "easy to contain – low abundance" aquatic plant infestations will be considered immediate targets for containment and eradication controls. Minimizing the spread of newly documented and immature infestations before they have the chance to become well-established will be considered a priority management action. Rapid response will be implemented by hand-pulling plants via the guidelines set forth by the Adirondack Park

Agency's "Advice on the Hand-harvesting of Nuisance and Invasive Aquatic Plants." Additional methods may be required to manage an infestation to contain, reduce, or eradicate the population. Management will require assessing a set of criteria to evaluate site conditions to determine appropriate and permitted actions. Additional research and collaboration among partners and stakeholders will occur to develop an appropriate, effective, and approved prevention and integrated plant management plan.

Facilities and activities within the unit may influence invasive plant species introduction, establishment, and distribution throughout and beyond the unit boundaries. These facilities and activities are likely to serve as "hosts" for invasive plant establishment. Perpetual ED/RR protocols should be implemented in probable locations of invasive plant introductions:

Public Day Use Areas
Parking Areas
Campgrounds
Boat Launches
Dedicated All-Terrain-Vehicle Trails
Dedicated Snowmobile Trails
Horse Trails

Protocols to minimize the introduction and transfer of invasive plant species will be incorporated during routine operations and historic and emergency maintenance activities, which may include the following:

Construction Projects

Supplemental to the principals of the Minimum Tools Approach, all soils/straw/seed or sources of materials to be used as stabilization/cover for construction projects within the unit will be certified as weed-free.

Campground Maintenance

Forest Preserve Campgrounds will be inventoried for invasive plant establishment on a yearly basis. Staging areas of spring clean-up debris and soils within the Campground will be closely monitored for invasive plant establishment. Campgrounds already infested with priority invasive plant species will incorporate ED/RR protocols into that respective Campground's yearly plan of work and Unit Management Plan. (Example: DEC's Lake Eaton, Eighth Lake, Golden Beach and Limekiln Lake Public Campgrounds are all documented having multiple Garlic mustard infestations at each facility.) Sanitization protocols for clothing, boots, tools and motorized equipment utilized at Campgrounds will be established.

Trail Maintenance

Supplemental to the principals of the Minimum Tools Approach, all soils/straw/seed or sources of materials to be used as stabilization/cover for construction projects within the unit will be certified as weed-free.

Field Sampling

Personnel performing field sampling should avoid transferring aquatic invasive species between waters by thoroughly inspecting and cleaning equipment between routine operations. Potential pathways include: vehicles, boats, motors, and trailers; sampling equipment; measuring and weighting devices; monitoring equipment; and miscellaneous accessories.

Angling Tournaments / Derbies

Licensing, registration, and/or permitting information distributed by the DEC to Tournament or Derby applicants should include guidelines to prevent the introduction and transport of invasive species.

Restoration of sites where invasive plant management occurs is critical to maintain or enhance historical ecological function and structure. Restoration should incorporate best available science to determine effective techniques and the use of appropriate native or non-invasive plant species for site restoration.

Educating natural resource managers, elected officials, and the public is essential to increase awareness about the threat of invasive species and ways to prevent their introduction and transport into or out of the unit. Invasive species education should be incorporated in staff training and citizen licensing programs for hunting, fishing, and boating; through signage, brochures, and identification materials; and included in information centers, campgrounds, community workshops, and press releases.

4. Wildlife

Present conditions:

While all of the objectives and management actions outlined below are important, a management priority should be placed on increasing our understanding of the occurrence and distribution of many wildlife species and their habitats within LGWF. This priority is reflected under the list of potential management action projects outlined below.

Objectives:

- To perpetuate, support, and expand a variety of wildlife recreational opportunities, including sustainable hunting and trapping and wildlife observation and photography as desirable uses of wildlife resources.

- To assure that wildlife populations are of appropriate size to meet the demands placed on them, including consumptive and non-consumptive uses.
- To increase our understanding of the occurrence, distribution, and ecology of game and nongame wildlife species and their habitats
- To minimize wildlife damage and nuisance problems
- To meet the public's desire for information about wildlife and its conservation, use, and enjoyment.

Management Actions:

- Manage and protect wildlife through enforcement of the Environmental Conservation Law and applicable Rules and Regulations.
    - Continue close monitoring for the potential of poaching and illegal collection of timber rattlesnakes.
- Support traditional use of the unit's wildlife resources, particularly activities designed to perpetuate hunting and trapping programs and education efforts.
- Continue to monitor and inventory wildlife populations and their habitats, particularly game species and species classified as threatened, endangered or special concern.
    - Conduct targeted surveys for threatened and special concern bird, reptile, and amphibian species. For birds, target species that were documented in the first Breeding Bird Atlas Project, but not the second.
    - Continue to closely monitor Peregrine Falcons, timber rattlesnakes, and their habitats in the unit.
    - Conduct surveys for American marten to better understand distribution and habitat use in the eastern Adirondacks.
    - Monitor existing radio-collared moose and continue to collar new individuals on an opportunistic basis and as pertinent research questions arise.
    - Monitor use of deer wintering areas in the unit.
    - Continue to support statewide survey efforts that increase our understanding of the occurrence and distribution of flora, fauna, and significant ecological communities (e.g., Breeding Bird Atlas, New York Natural Heritage Program surveys).
- Active management of wildlife populations will be accomplished primarily through hunting and trapping regulations developed by the DEC Bureau of Wildlife for individual or aggregate Wildlife Management Units. Continued input from Citizen Advisory Committees will be considered in determining desirable levels of wildlife.
- Re-establish, to the extent possible, self-sustaining wildlife populations of species that are extirpated, endangered, threatened or of special concern in habitats where their existence will be compatible with other elements of the ecosystem and human use of the area.

- Provide information, advice and assistance to individuals, groups, organizations and agencies interested in wildlife whose activities and actions may affect, or are affected by, the wildlife resources or the users of wildlife.
  - Continue public outreach regarding the presence of timber rattlesnakes in the unit and provide information on the biology of this species as well as human-snake interactions.
- Provide information, advice and/or direct assistance to requests for relief from, or solutions to reduce or alleviate, problems with nuisance wildlife.
  - Continue to work cooperatively with Dr. Bill Brown (Skidmore College), town Animal Control Agents, and the DEC Division of Law Enforcement to appropriately handle and relocate "nuisance" timber rattlesnakes.
  - Monitor double-crested cormorants and potential negative impacts that they may cause to vegetation and habitats within the unit; take appropriate management action as necessary.
  - Provide information to user groups on avoiding problems associated with black bears. Encourage the use of bear-resistant food canisters.
  - Work cooperatively with the Division of Lands and Forests to assess problems associated with beaver-flooded trails. Work with area trappers and encourage trapping at nuisance sites during the open beaver trapping season.

5. Fisheries

Present Conditions:

The surface waters of the LGWF are located in the Lake Champlain, Lake George, or Upper Hudson watersheds. Lake George itself is situated in the approximate center of the LGWF planning unit. It should be noted that Lake George is not a portion of the LGWF, although several islands of Lake George are part of the LGWF. The management of Lake George is planned separately from the LGWF. However, the streams, ponds, and smaller lakes of the Lake George watershed that are surrounded by Wild Forest lands are considered part of this plan. An example would be Jabe Pond which is a surface water of the LGWF.

In all, forty-seven ponds and lakes occur within, or border the unit. All of these surface waters are shown on the current U.S.G.S. 7.5-minute topographic maps. Surface waters are dispersed throughout the planning unit, and range in size from about an acre to Lake George with a surface area of 28,200 acres. Ponded waters in or bordering the unit have a total acreage of 28,764 acres. The area also contains hundreds of miles of small, coldwater streams and beaver flows. Prominent streams include Northwest Bay Brook and Indian Brook on the west side of the unit.

With regard to fisheries, it has been determined that several ponds within the unit containing non-native species cannot be returned to natural conditions (natives only). In some of these ponds, their association with contiguous wetlands precludes effective treatment with rotenone. In other ponds, the absence of a natural fish barrier or a suitable site upon which to construct a

fish barrier precludes effective treatment with rotenone. As other fishes become established in these waters, it is likely that brook trout will be eliminated from these ponds. These ponds cannot be restored with current technology.

The first large scale biological survey of the unit's surface waters was conducted in 1932. This first survey identified the widespread presence of, nonnative fishes throughout most of the Lake George Wild Forest. By 1932 lakes and ponds in the unit often contained from two to four nonnative species. Apparently, during the late 19th to early 20th century, fishes such as smallmouth bass, largemouth bass, yellow perch, and golden shiner were introduced in the unit. Along with these species came non-native bait fish which further impacted the native fisheries by replacing small native fish.

At one time brook trout were well represented in the unit, but their exact distribution remains obscure because the early establishment of nonnative species heavily impacted the unit's brook trout fisheries. Today brook trout are maintained principally through routine stocking and by reclamation of impacted ponds lakes and streams. As part of the restoration efforts within the unit, Little Tupper Lake strain of brook trout was introduced to the unit in 1976. Lake trout occur only in Lake George, the largest of the unit's lakes. Occasionally, lake trout are caught in Round Pond probably as the result of an unauthorized introduction or stocking error. A number of ponds show a rapid accrual of introduced fish species. These ponds include Duck Pond and Long Pond.

Although the unit contains a number of streams which are stocked by DEC and Warren County, recent biological survey information is generally unavailable. A number of the Lake George tributaries served as nursery areas for landlocked salmon from the 1950's through 1970's; however, landlocked salmon populations since have been maintained by annual yearling salmon stocking directly into Lake George.

The improvement of access has been an ongoing part of the Bureau of Fisheries' activities, especially in the south basin of Lake George. Year round public access is available at Mossy Point Boat Launch Site in Ticonderoga which serves the northern portion of Lake George. Public access to the south basin is limited to a seasonally operated DEC launch at the Lake George Beach and to a DEC launch at Hearthstone campsite. The launch at the Lake George beach is operated from the time of ice-out to Memorial Day and from Labor Day to ice-up. Ice fishermen may walk out onto the ice of the southern basin from the launch as well. No other year round public access facility is available for the southern basin of the lake.

Attempts to improve angler access to Lake George will continue in cooperation with the Lake George Park Commission, local government, and other agencies. The DEC currently plans to modernize the car-top access facilities at Northwest Bay. There are no expansion or modernization plans for DEC access facilities at Rogers Rock or Hearthstone campgrounds. Modernization of existing boat launching facilities on Lake George will be discussed in individual UMP's for the respective state campgrounds.

Maintenance of several existing man-made impoundments will be beneficial to management of fisheries in the unit. Man-made impoundments (Gage Brook, Hubbell, and Shelving Rock Reservoirs) were constructed prior to the creation of the Adirondack State Park and the adoption of the APSLMP. Originally built for purposes as varied as fire protection and drinking water sources, they have provided an important secondary stormwater management function.

A recent proposal by the Lake George Association (LGA) has requested that the DEC repair these impoundments through continued maintenance of access roads, reinforcing the dams, and construction of permanent diversion structures to facilitate regular dredging and disposal of the sediments trapped by these structures. The LGA has also proposed these measures to protect the waters of the Lake George watershed. The LGA proposals would serve to reduce unit soil loss by slowing overland drainage, trapping sediment-laden drainage waters thereby protecting water quality for the fishery resource. Further, the proposed structures help reduce non-point source pollution associated with run off from town highways traversing the unit. As these measures would serve to protect the fisheries of the unit, they may be considered permissible under the APSLMP. Under the APSLMP stream improvement structures for fisheries management purposes (APSLMP, Item #33, pg. 19) are permitted. Dredging and other work done to maintain reservoirs is done by the Warren County Soil and Water Conservation District.

Objectives:

- Maintain the diversity of coldwater and warm-water fish populations in the unit.
- Maintain a population of wild, self-sustaining lake trout and stocked landlocked salmon in Lake George.
- Encourage and promote angler use of the waters in the unit through routine fish management practices including hotlines, correspondence and contact with the public by DEC staff.
- Maintain the native populations of Little Tupper Lake strain brook trout at Jabe and Little Jabe Ponds.
- Maintain Adirondack brook trout populations in Brown Pond, Bumps Pond, Buttermilk Pond, Duck Pond, Fishbrook Pond, Gay Pond, Greenland Pond, Inman Pond, Island Pond, Long Pond, Lapland Pond, Racket Pond, Upper Black Mountain Pond and Unnamed Pond (401 CH).
- Reclaim Inman Pond with rotenone to remove non-native rock bass and restore a native fish community containing brook trout.
- Reclamation of Fishbrook Pond, Long Pond, Jabe Pond, Little Jabe Pond and/or Bumps Pond will be necessary if non-native or other fish species become established and jeopardize the existing trout population. When a reclamation of Bumps Pond or Fishbrook Pond is determined to be necessary, the unit management plan will be amended to include the project in the Schedule for Implementation and the pond narrative will be revised to relect the new survey information.

Management Actions:

- Amend this UMP to allow the reclamation of Bumps Pond, Fishbrook Pond, Palmer Pond, Long Pond, Jabe Pond, and Little Jabe Pond at any time populations of non-natives or other fish species are found to jeopardize the continued survival of brook trout populations.
- Amend the Schedule for Implementation appearing in this UMP when reclamation projects are deemed necessary. Concurrent with this shall be the revision of the pond narrative to reflect new survey data.
- Install new gate at Palmer Pond.
- New fish barrier dam construction is not proposed. A fish barrier dam on the outlet of Palmer Pond will be maintained.
- Reclaim Inman Pond to restore a native fish community.
- Survey Gay Pond to determine its suitability as a reclamation candidate. If Gay Pond has the physical and biological attributes to allow successful reclamation is shall be reclaimed to restore a native fish community. Prior to a reclamation, this unit management plan will be revised to update the schedule for implementation and to reflect the new survey information.
- Maintain sediment catch basin reservoirs in the Lake George Wild Forest. Maintenance will include removing detained sediment from the reservoirs on a regular basis, maintenance of access roads and installation of permanent water diversion structures that would allow for more efficient removal of sediment.
    - Remediate the sediment delta associated with the outlet of Gage Brook Reservoir, a man-made basin within the West Brook watershed, via the installation of permanent diversion structures.
    - Install permanent concrete diversion structures in the man-made sediment basin (former water supply reservoir) at Hubbell (a.k.a. Big Hollow) Reservoir. This reservoir is sited in an area of highly erosive soils, and is upstream of a large lake delta associated with English Brook.
    - Dredge Shelving Rock Reservoir, and install a permanent diversion structure and other improvements to facilitate maintenance. This reservoir currently provides stormwater mitigation for the popular lake bays adjacent to Shelving Rock. The maintenance of this reservoir would therefore serve to protect a popular visitor attraction from stormwater impacts.

B. Land Protection

1. Open Space

Present Conditions:

The overall framework for land protection and acquisition in New York State is described in the 2006 New York State Open Space Conservation Plan. The plan was developed from the work of nine regional committees, representing the spectrum of open space advocates, natural resource and recreation professionals, local government, and concerned citizens. This plan ensures that the State of New York conserves its open space resources as part of ongoing efforts to improve the economy and the quality of life in New York communities. The OSP does identify lands within the Lake George Watershed as a priority that the state should protect. Appropriate opportunities for land acquisition are regularly evaluated as they become available.

Objectives:

- Acquire additional land for the LGWF, as needed to enhance resource protection or recreational use of the Wild Forest, in accordance with the recommendations of the State Open Space Conservation Plan.
- Minimize any adverse impacts of public land acquisition on private landowners and local municipalities.

Management Actions:

- Identify and evaluate land protection opportunities as they arise.
- Pursue conservation or public access easements as alternatives to land acquisition when sale by the land owner can not be successfully negotiated.
- Continue to work with land conservancies/trusts to assist with timely acquisition of critical parcels that become available for purchase.

2. Boundary Maintenance

Present Conditions:

The LGWF is made up of numerous individual parcels of state-owned land ranging from a few acres to several thousand acres. These various parcels comprise approximately 350 miles of boundary that must be marked and maintained. State land boundaries have traditionally been marked with yellow paint blazes applied to tree trunks along the property line. Some state parcels have never been surveyed. In the LGWF, boundaries have been remarked in situations such as timber trespass or in those rare instances when adjoining landowners request confirmation of Wild Forest boundaries. The task of boundary marking was formerly the responsibility of the Forest Rangers. Currently boundary marking is performed by seasonal work

crews. Rangers may occasionally mark boundaries; however this is no longer a part of the Ranger's duties. Boundaries are no longer being maintained on a regular basis and additional manpower and coordination is needed. This situation increases the likelihood for state land boundary markings to become obscured by vegetation, or lost to blow downs and/or vandalism.

Objectives:

- Physically identify LGWF unit boundaries on the ground for purposes of administration and public recreation (e.g., when trails cross or come near private lands).
- Increase the DEC's available data concerning Wild Forest boundary within the planning unit through the combined application of traditional survey and GIS technology.
- Increase public awareness of Wild Forest boundaries within the planning unit as a means of reducing conflicts between the DEC and adjoining property owners.

Management Actions:

- Physically identify LGWF unit boundaries on the ground for purposes of administration and public recreation (e.g., when trails cross or come near private lands).
- Survey and mark boundaries in the Dunhams Bay Marsh/ Pickle Hill area.
- Repaint boundaries every seven years per DEC policy, meaning 50 miles of boundary painted each year.
- Remove encroachments as they are discovered.

C. Man- Made Facilities

1. Trails

Present Conditions:

Trails are the 'highways' of the Wild Forest interior and provide access to some of the unit's more pristine and scenic natural resources. For this reason, the maintenance and where necessary, expansion of the unit's network of trails is a vital component of this UMP. Trails and trail use are a significant recreational component of the LGWF. For reasons related to safety, resource protection and the quality of user experience, trails within the unit must be maintained to acceptable standards (for surfacing, slope, width, sight distance, etc.).

Trail management involves not just the trail itself, but also the corridor it occupies. Trails are not self-sustaining. Once developed, all trails must receive a degree of maintenance; otherwise non-maintained trails will deteriorate, become unusable and/or cause resource problems.

An inventory of LGWF trails was completed in 2002 and has been incorporated into a trails classification system. Trail standards and maintenance prescriptions, reflecting different types

and levels of use, are defined for each class in the Appendix Five. The classification system acknowledges the fact that all trails do not require the same degree or frequency of maintenance.

The DEC relies on volunteers, trail contractors, Student Conservation Association crews and a seasonal two-person trail crew to meet the maintenance needs of the trails in the LGWF as well as surrounding units. Through the DEC's 'Adopt A Natural Resource' program (AANR), snowmobile groups, clubs, and other organizations raise finances and provide material resources to accomplish trail construction and repair. These organizations may also contribute labor and planning assistance. The use of volunteers and contractors, though effective, has associated costs and other limitations. For example, DEC personnel must devote time to planning and coordination, training, supervision, and logistical support to volunteers. Trail planning is conducted annually between staff, potential trail contractors, and volunteers. Even with volunteer assistance, DEC personnel cannot keep pace with the demands for maintenance.

Objectives:

- Provide visitors with a trail system that offers a range of back country recreational opportunities in a manner that keeps physical and visual trail and resource impacts to a minimum and complies with APSLMP guidelines.
- Maintain trails in a manner which preserves their classification (see Appendix Five), and prevents impacts such as sedimentation and erosion.
- Identify need for trail relocations and/or need for new trails.
- Provide a unified system of trail signage and markers on the LGWF. Trail Marker colors will describe general direction of trails; Red markers will be used on trails that primarily run east-west, Blue markers will be used on trails that primarily run north-south, and Yellow markers will be used on spur trails, connecting trails, and loop trails.

Hiking Trails

Present Conditions:

The LGWF has an extensive hiking trail network available to the public. Some trails, such as the Prospect Mountain trail, lack adequate drainage control and hardening features to prevent erosion. In general, as grades approach 50 percent, the point of being able to control erosion is passed. Trails with steep grades, and those lacking surface water drainage controls tend to channel water and create gullies, thus accelerating erosion (Trapp et.al., 1994). These trails require extensive work and investment either to maintain as-is, or to redesign and relocate. The DEC has trail maintenance and reconstruction needs on the majority of the unit's trails.

Objectives:

- Maintain designated trails annually to protect resources, promote visitor safety and prolong the life of the investment.

Management Actions:

- Trail sections vulnerable to excessive damage, which cannot be relocated, will be signed as closed during wet seasons. Postings will be done at trailheads and through the media. Voluntary compliance will be the first strategy employed; mandatory regulation and enforcement will be the actions of last resort.
- Collect recreational use data through register information and trail counters.
- AANR agreements with regard to trails will be renewed and additional AANR agreements may be sought.
- Trails on LGWF that serve solely as private access from adjacent parcels will not be designated as DEC trails. Marking and maintenance of trails connecting the private trails originating on private lands adjoining the Lapland Pond portion of the Black Mountain area will not be permitted. Markers on non-designated trails occurring on State land will be removed.
- Maintain barricades, compliant with the dictates of the APSLMP, to prevent illegal ATV operation on unit hiking trails.
- Designate a trail(Class III Foot Trail) leading from trails already established in the Village of Lake George Recreation area to the large parking area on Prospect Mountain including approximately 0.5 mile of new trail construction. From this parking lot hikers will be able to walk to the summit of Prospect. With the exception of approximately 1.0 mile, including a short reroute around a heavily eroded former logging road system, most of the trail system is already present on Forest Preserve. Total trail mileage on Forest Preserve approximates 3.0 miles. Approximately 0.1 mile of the proposed trail will be located on the Prospect Mountain Intensive Use Area near the mountain parking lot. Approval through completion of the Prospect Mtn. UMP is required for designation of this trail system. Work with the Village of Lake George to expand recreational opportunities through such a linkage. This proposed trail, once adopted, will have no steep slopes (>20% slope), is quite scenic, and will likely lessen overall use to the present Prospect Mtn trail. A registration box will be placed at the Forest Preserve boundary to obtain use information.
- Reroute an approximate 0.25 mile section of the hiking trail below the summit of Buck Mountain on the southwest side of the mountain. This section of trail has become heavily eroded in recent years.
- Reroute portions of the existing Prospect Mountain foot trail that occur on Wild Forest lands, preferably to the northwest or southwest of its current location. Portions of the trail require rerouting to reduce their grade and address erosion problems. Re-routed segments will feature switchbacks and erosion control devices. The majority of the trail will continue to follow the old rail grade. The existing trail is excessively steep and poorly maintained. As a result, the trail presents conditions hazardous to hikers during all seasons of the year. The re-routed trail will be designated and maintained as a Class III foot trail. Where the old trail segments are abandoned, soil stabilization devices will be installed to help trap and retain soils.

- There exists an informal trail system leading to Pilot Knob Mountain from the Buck Mountain Trail. This is essentially an unmarked footpath and will remain an unmarked trail to preserve its character. It will be classified a Class I (unmarked trail) under the trail classification system
- Designate the present trail system (approximately 5 miles) on the recently acquired 1,300 acre Northwest Bay Tract. It will be designated a Class III foot trail. This trail should be marked and improved. Locate and mark an additional foot trail (approximately 1.5 miles) from the northern portion of this present trail to and adjacent to the Clay Meadows parking lot. A bridge spanning the Northwest Bay Brook would be required to designate a trail, here.
- Sign non-designated trails on the recently acquired Northwest Bay parcel, against illegal ATV traffic.
- Relocate and/or harden (install stepping stones, log bridges, etc.) wet sections of the Lapland Pond to Fishbrook Pond trail. The first trail section discussed here is situated in that portion of the trail beginning at a point approximately 670-feet east of the Lapland Pond lean-to and continuing to a point approximately 2,000-feet from the lean-to. A wet area in need of observation and possible attention is found along this trail in the vicinity of 43º 34’ 59” N 73º 31’ 56” W. The second trail section discussed here begins at a point on the trail approximately 390-feet south of the Millman Pond lean-to and continues to a point approximately 1,050-feet south of the lean-to and up slope towards Fishbrook Pond.
- Repair and rehabilitate the trail from Dacy Clearing to Bumps Pond in accordance with Class III trail specifications. Repair entails providing water control structures, grading, and hardening on portions of the trail damaged by wild fire fighting equipment used in this area during the summer of 2002.
- Work with the Division of Operations should they choose to construct a formal trail leading from Roger’s Rock campground to an overlook point on the height of land to the west of Rogers Slide. A formal, marked trail in this location would provide a manageable access route to a desirable destination, allowing campers to follow a formal trail to the summit. A single marked trail would ideally keep hikers from wandering into the adjacent wild forest, perpetuating the many herdpaths in the area. Additionally, signage should be associated with this trail at its beginning as well as its end. Signs below should describe the trail statistics and signs at summit should be used to confine users to the endpoint of the trail and discourage users from exploring areas beyond the sign. A trail was described for this area in the Final Unit Management Plan for Rogers Rock Public Campground.
- Designate the trail around Palmer Pond as a Class VIII ski trail. Currently the trail is designated for snowmobile use, and it dead-ends at private property. Create a new Class VIII ski trail around the remainder of Palmer Pond to create a loop of the shoreline which would provide a more attractive Wild Forest hiking and skiing experience for visitors.
- Reroute the trail to Round Pond to avoid wetland areas. Investigate the potential

of moving the trail spur entrance to a point situated at approximately 43° 42' 9"N 73° 38' 35' then proceeding eastward to follow the 1,300' ASL contour (per USGS datum). A bridge would also be required here. If feasible, construct the snowmobile trail as described.

Trail-less Peaks

Present Conditions:

The LGWF has a few trail-less peaks featuring a clear summit and an open view. However, several of the taller hills of the unit, particularly on the eastern side, are popular with area residents for reasons other than open panoramas. Some residents and visitors of the unit come to these hills in search of 'bush-whacks' that challenge orienteering skills and offer the opportunity to experience more secluded Wild Forest scenery. Trail-less peaks do not have a DEC designated and marked trail to their summit, nor do they receive any scheduled maintenance. The peaks have a special significance to residents within and near the unit for purposes ranging from traditional hunting grounds to the quest for remoteness. Heightened recreation use in the area, and the advent of GPS technology makes these peaks more attractive to users of the unit. Considering the advent of precise navigational tools and added user pressure, the term 'trail-less' peak may become a misnomer as more users find their way to the tops of these pristine summits. The DEC will have to monitor the use of such areas and decide whether to cut and designate an official trail, or search for and remove non-designated trails and trail markers.

Objectives:

- Continue to provide for a unique recreational experience distinctive to the backcountry of the LGWF, yet keep physical and visual trail and resource impacts to a minimum.
- Discourage the use of 'herd paths' on the remaining trail-less peaks.

Management Actions:

- Develop and monitor LAC standards
- Designate routes on trail-less peaks as Class I trails (unmarked footpaths). Examine these routes and assess drainage, slope, and soil stability. Occasional blow down removal will be allowed to help define the route. Remedial maintenance will be employed as required to stem erosion and vegetation loss.
- Closed routes will be brushed in to obliterate unwanted paths. Appropriate and conforming erosion control devices will be put in place where necessary.
- Collect better use data and monitor site conditions on the unit's 'trail-less' peaks.
- Continue information and education efforts to promote safety and reduce impacts.
- Remove unofficial markers that have been placed on non-designated trails (e.g., Pilot Knob, and Pilot Knob Mt.)

Mountain Bike Trails

Present Conditions:

Presently, mountain bikers recreate throughout the Lake George Wild Forest. Several of the more popular mountain bike routes are described on mountain bike websites and in publications. DEC roads, suitable trails and historically used skid trails throughout the unit provide a potential network of mountain bike routes.

The Master Plan, on page 36**,** specifies that in Wild Forest areas "all terrain bicycles may be permitted, in the discretion of the DEC, on roads legally open to the public and on state truck trails, foot trails and snowmobile trails deemed suitable for such use as specified in a management plan". DEC regulation 6NYCRR §196.7(e) provides that "[the operation of bicycles is permitted on roads and trails on Adirondack forest preserve wild forest areas except for those roads and trails posted as closed to bicycle operation." This plan will decide which roads, trails, and potential trail areas are suitable for mountain bicycles and will layout which areas roads and trails will be closed to mountain bicycles.

Mountain bike use in the LGWF is not well documented. The occasional track can be found on trails and roads throughout the Wild Forest, however, beyond DEC observations, and limited studies, there have been no studies directly observing mountain bike use in the Wild Forest. While designed to study overall visitor use, the Adirondack Visitor Studies Conducted in Support of NYSDEC Unit Management Planning: Lake George Wild Forest (North) provided some interesting mountain bike statistics for a use period between May 22, 2004 and September 11, 2004. The study covered the northern area of the Lake George Wild Forest to the north and west of and including the Tongue Mt. Range. One hundred seventy-seven visitor surveys were completed and returned. Returned surveys showed mountain bikes made up only 4% of visitor use during this period. When asked about feelings toward number of mountain biking groups on trails, 8% felt there were far too few, 0% felt there were too few, 33.6 percent felt they were about right, 4.8% felt there were too many, 6.4 percent felt there were far too many, and it did not matter to 47.2% of users who completed the survey. When asked if mountain biking groups on trails detracted from the enjoyment of the trip, 85.1% reported not at all, 9.4% reported a little, and 5.5% reported a lot.

The Shelving Rock area of LGWF is a popular mountain biking destination. Websites such as Adirondack Sports and Fitness describe a couple of trails in the Shelving Rock area and label them as Intermediate to Advanced due to difficult terrain. These trails use a network of travel corridors ranging from roads, to foot trails and provide a few loop options as well as spur trails for mountain bikers. The three main soil types that make up the Shelving Rock area are: Hollis-Charlton association (HLE), Rock outcrop-Hollis association (ROF) and Charlton association

(CHE). These soils are described in the Soil Survey of Washington County NY as being exceptionally rocky, shallow and having significant slope. For the most part, these soils are well drained and do not present an erosion problem, however, one is bound to encounter portions of trails or areas that are not characteristic of the soil descriptions. Should significant portions of Wild Forest trails show signs of degradation these areas will be stabilized. If degradation continues and can be primarily attributed to mountain bike use, the DEC will take appropriate action.

When thinking of future use in the Adirondack Park, The Lake George Wild Forest has exhibited in the past and undoubtedly will continue to represent a hotspot among users. The Lake George Village and surrounding Wild Forest is an easily accessible vacation destination to great numbers of people throughout New York State including New York City as well as neighboring states and Canada. As stated in the Adirondack Park State Land Master Plan in reference to Wild Forests, "Many of these areas are under-utilized. For example the crescent of Wild Forest areas from Lewis County south and east through Old Forge, southern Hamilton and northern Fulton Counties and north and east to the Lake George vicinity can and should afford extensive outdoor recreation readily accessible from the primary east-west transportation and population axis of New York State." The term under-utilized is difficult to define, however, this unit management plan is the mechanism that will be used to define and regulate future recreational use in this Wild Forest while maintaining the wild forest character and protecting the natural resource.

Objectives:

- To comply with the State Land Master Plan guidelines concerning use of mountain bikes in Wild Forest.
- To provide appropriate mountain bike opportunities that are desirable by the public and are consistent with the protection of natural resources.

Management Actions:

- Close Tongue Mountain area trails to mountain bikes. This area consists of the trail network between State Route 9N and the shoreline of Lake George. A good portion of these trails are extremely steep and not compatible with mountain bike use. The exception of these conditions would be the Northwest Bay trail that leads to Montcalm point. This trail contains low-lying areas with wet soils that could be damaged by bike traffic and does not present favorable conditions for mountain bike use. Due to these conditions, the Tongue Mt. area trails will be closed to mountain bikes and the trails will be signed as so. Other trails (See Appendix Thirteen for map displaying Shelving Rock trails) that will be closed to mountain bike use, due to excessive slope conditions, include Black Mtn. Pond Trail, Black Mtn. South Summit Trail, Black Mtn. Summit Trail. Essentially, this description includes the trails from Black Mtn. Point to the summit of Black Mtn.

and east to the junction of the Millman Pond Trail. The section of trail, from the Millman Pond Trail junction to the Pike Brook Road, will remain open for mountain bike use. The Buck Mtn. Trail and the eastern portion of the Sleeping Beauty Trail to the summit of Sleeping Beauty Mtn. will also be closed to mountain bike use. The Prospect Mtn. Trail section of the Wild Forest, likewise will be closed to mountain bike use. All other trails not included in above descriptions will be open to mountain bike use.

- Development of a mountain bicycle trail system in the vicinity of Prospect Mountain. Potential does exist in the Wild Forest to design and create a mountain bike trail system within close proximity to the village. A portion of the Lake George Wild Forest in the vicinity of Prospect Mountain would provide such a location. This area of Wild Forest, sandwiched between the Intensive Use area and I-87, the Northway, combines favorable soil types and an extensive network of old roads and trails that would lend themselves well to a mountain bike trail system. A properly laid out trail system in this area could potentially accommodate users of different skill levels and have little impact to the resource. The trail would be accessed from the village, via the Prospect Mountain Highway bridge over I-87. Should public interest be expressed in a trail system at this location, the DEC will be responsible for proper layout and development of the trail and may utilize the Adopt- a-Natural Resource program to aid in development of the trail. Prior to any construction, the DEC will consult with the APA and obtain any necessary permits. See Appendix Six for standards followed in construction and improvements to mountain bike trails.
- Continue monitoring remaining trails in the LGWF for damage from mountain bikes, remedy problems as they arise and close specific trails to mountain bikes if problems can not be fixed by other means.

Equestrian Trails

Present Conditions:

Another feature of the LGWF is its equestrian trails. While marked as equestrian trails, hiking, snowshoeing and cross-country skiing may also be allowed on these trails. Horses riders can use snowmobile trails when trails are not covered by snow. Horse riders cannot use foot trails. Most of these trails are part of the trail network associated with the area in and around Fishbrook Pond and Dacy Clearing. Equestrian use of these trails is another type of recreation enjoyed in the Wild Forest. Like mountain bikes, equestrian use is not nearly as common as hiker traffic in this unit, however, it is a popular activity. A sign near the parking lot at Dacy Clearing indicates a Negative Coggins test for Equine infectious anemia is required. This test is required of all horses that are transported within the state. This certification must be presented to Law Enforcement upon request. Horse travel is one mode of transportation that may allow for easier access to the Wild Forest for people with disabilities. As directed in the Consent Decree, equestrian mounting

platforms have been installed in this area to provide more accessible mounting and dis-mounting of horses. The platforms will allow a rider to mount the horse near the parking facility, but will likely require the rider to return to the parking lot in order to dismount. Platforms were constructed at the Upper Hogtown Parking area and Dacy Clearing during 2006. Originally, platforms were to be constructed at Bumps Pond and Fishbrook Pond, per Consent Decree requirements. Due to site limitations, trail conditions and topography between Dacy Clearing and Bumps and Fishbrook Ponds, a substitution project is proposed to upgrade two primitive sites on the mainland to ADAAG specifications. These two sites will be located in the intensive use area along the east shore of Lake George.

There is some concern that equestrian use could promote the introduction of Invasive Species through seed dispersal in feed and manure. Invasives-free hay may be available on the west coast but such hay is apparently not yet available in adequate quantities on the east coast. No specific management policies exist in relation to seed-free hay in other nearby popular equestrian recreation areas, such as the Green Mountain National Forest in Vermont. Horse use has existed in the Shelving Rock area for many years and no known occurrences of Invasive Species exist. The type of soils, coupled with heavy litter of pine needles, shaded areas, may all combine to be inhibiting factors for growth of Invasive Plants. This plan proposes an annual survey at Dacy Clearing, during the summer months, to check for Invasive plants.

Objectives:

- Maintain designated equestrian trails annually to protect resources, promote visitor safety and prolong the life of the investment.

Management Actions:

- Annual survey of Dacy Clearing area for Invasive plant species.
- The following trails and DEC motor vehicle roads are proposed to remain open for equestrian use:

Shelving Rock Area (See Appendix thirteen for Shelving Rock map)

Inman Pond Trail	Red Rock Bay Trail
Inman Pond Spur Trail	Lake Shore Trail
Inman Pond Loop Trail	Ridge Trail
Longway Trail	Fishbrook Pond - LG Trail
Shelving Rock Mtn. Trail	Erebus North Slope Trail
Dacy Clearing Road	Erebus South Slope Trail

Shortway Trail	Fishbrook Pond Trail
Sleeping Beauty Mtn Trail (not trail to summit)	Fishbrook Pond West Trail
Old Farm Road	

Northwest Bay Area

Northwest Bay Trail

Lily Pond Area

Lily Pond Road

Approximately 26.0 miles of trails and 5.0 miles of DEC motor vehicle roads are open for equestrian use**.**

Snowmobile Trails

Present conditions:

Notable in the LGWF are the number of snowmobile trails. Snowmobile trails must be specifically signed to indicate that this use is permissible. Trails marked as snowmobile trails may be used by hikers, snowshoers, and nordic skiers also. Most of these trails follow along established foot trails and old carriage roads, particularly, those trails found on the east side of Lake George. At other times, the snowmobile trails follow town and private roads passing through Wild Forest lands of the unit. Padanarum Spur and Wardsboro Roads are town roads situated on the western portion of the unit which allow snowmobile traffic during the winter. Shelving Rock Road is a town road on the eastern portion of the unit that allows winter snowmobile traffic on the public portion. Please see Appendix XI for maps displaying snowmobile trails in the unit.

Locations on designated snowmobile trails within the unit that require short reroutes include the following: In the Shelving Rock area, trails at Millman and Lapland Ponds follow over the water surfaces. Trail reroutes at these locations will follow the lakeshore inside the tree line.

Snowmobile Trails: The APSLMP allows snowmobile trails in units classified as Wild Forest. The APSLMP defines "snowmobile trail" as:

> *"a marked trail of essentially the same character as a foot trail designated by the Department of Environmental Conservation on which, when covered by snow and ice, snowmobiles are allowed to travel and which may double as a foot trail at other times of the year."*

The APSLMP (Wild Forest, Basic Guidelines (4)) also states that:

> *"Public use of motor vehicles will not be encouraged and there will not be any material increase in the mileage of roads and snowmobile trails open to motorized use by the public in wild forest areas that conformed to the master plan at the time of its original adoption in 1972".*

Further, the APSLMP (Wild Forest, Snowmobile Trails) states that:

> *"Snowmobile trails should be designed and located in a manner that will not adversely affect adjoining private landowners or the wild forest environment and in particular:*
>
> *–the mileage of snowmobile trails lost in the designation of wilderness, primitive and canoe areas may be replaced in wild forest areas with existing roads or abandoned wood roads as a basis of such new snowmobile trail construction, except in rare circumstances requiring the cutting of new trails;*
>
> *-wherever feasible such replacement mileage should be located in the general area as where mileage is lost due to wilderness, primitive or canoe classification;*
>
> *-appropriate opportunities to improve the snowmobile trail system may be pursued subject to basic guideline 4 set forth above, where the impact on the wild forest environment will be minimized, such as: (I) provision for snowmobile trails adjacent to but screened from certain public highways within the Park to facilitate snowmobile access between communities where alternate routes on either state or private land are not available or topography permits and, (ii) designation of new snowmobile trails on established roads in newly acquired state lands classified as wild forest, and,*
>
> *-deer wintering yards and other important wildlife and resource areas should be avoided by such trails.*

Snowmobile trails in the Lake George Wild Forest

Proposals for the construction and maintenance of snowmobile trails in the LGWF unit have been made within the spirit of the language above, set forth in the APSLMP. Trail siting goals include the following:

- For safety reasons, trails should be kept off highways (especially major highways) and waterbodies whenever possible.
- Trails should be free of dangerous obstructions, such as trees and boulders.

- Trails must also be sited with environmental considerations in mind:
  - rare and endangered plant and animal species and their habitats should be avoided;
  - deer wintering yards should be avoided;
  - vegetative disturbance should be minimized;
  - wetlands, areas with poor drainage and steep slopes should be avoided;
  - tree cutting should be minimized and the trail canopy preserved; and
  - user group conflicts should be avoided.
- The DEC will not place snowmobile trails on private land without the owner's permission. Where an owner of private property agrees to allow a snowmobile trail on their property, the DEC should, whenever possible, acquire a permanent snowmobile trail easement which binds the owner's successors in title.

Objectives:

- Provide for snowmobiling opportunities in the LGWF consistent with the APSLMP criteria and guidelines.

Management Actions

- Close approximately 9.0 miles of snowmobile trail in the Shelving Rock trail system and continue to allow snowmobile use on remaining snowmobile trails (approximately 50 miles). See map in Appendix Thirteen portraying trails being closed in the Shelving Rock area.
- Reroute trails off Lapland and Millman Ponds in the Shelving Rock area to follow along the edge of the ponds inside the forest cover.
- Continue to allow snowmobile use on a 173 acre parcel (acquired 2003) in the town of Putnam near Putnam Station. Trail length approximates 1.0 miles on this parcel. This trail has been in use for many years (at least since 1980), previous to state ownership and is an important link to trail systems mainly on private lands in the towns of Putnam and Dresden.
- Construct an approximately 0.5 mile trail from the base of Shelving Rock Mountain (east side) to the Lake Shore snowmobile Trail. Sections of the present Shelving Rock Connector Trail may be incorporated into the new trail segment**.**

Discussion of "No Material Increase"

The APSLMP requires that there be no *"material increase in the mileage of roads and snowmobile trails open to motorized use by the public in wild forest areas that conformed to the master plan at the time of its original adoption in 1972"*. Further, the APSLMP states that *"the*

mileage lost in the designation of wilderness, primitive and canoe areas may be replaced in wild forest areas with existing roads or abandoned woods roads as a basis of such new snowmobile trail construction, except in rare circumstances requiring the cutting of new trails;" and that *"wherever feasible such replacement mileage should be located in the general area as where mileage is lost to wilderness, primitive or canoe classification."*

Prior to the adoption of the APSLMP in 1972, there were at least 48.2 miles of formally recognized snowmobile trails on the Forest Preserve lands that were to become the LGWF. This trail mileage gradually increased over the next 30 years to become the 54.1 miles of snowmobile trails present in the unit today. Following the adoption and implementation of this UMP, the snowmobile trail mileage in the unit will be approximately 46.0 miles. This overall decrease in snowmobile trail mileage results from trail closures intended to 1) reduce redundancy in the unit's snowmobile trail network by eliminating the poorer of two parallel routes, and 2) eliminate steeper trails near Lake George that are not essential snowmobile trails. The resulting snowmobile network will provide improved connectivity between nearby communities, benefitting local economies and increasing safety and efficiency. Additionally, reducing overall snowmobile mileage will allow limited trail maintenance resources to be focused on the most important and desirable trails.

Table 4. Mileage comparisons for snowmobile trails in the Lake George Wild Forest prior to the adoption of the APSLMP in 1972, prior to the adoption of this UMP, and following the implementation of this UMP. This table was compiled from information contained in the 1971 DEC brochure "Snowmobile Trails In New York State", as well as from information gathered from current and retired DEC staff.

Snowmobile Trails	Pre-APSLMP Mileage	Pre-UMP Mileage	Post-UMP Mileage
Northwest Bay Trail	5.0	0	0
Unnamed Trail (Shelving Rock)	0.4	0.4	0.4
Shelving Rock Mtn Trail	1.2	1.2	1.2
Shortway Trail	0.5	0.5	0.5
Sleeping Beauty Mtn. Trail	1.8	1.8	1.8
Fishbrook Pond Trail	0.9	0.9	0.9
Fishbrook Pond East Trail	0.2	0.2	0.2
Fishbrook Pond LG Trail	3.0	3.0	0
Greenland Pond Trail	1.0	1.0	1.0
South Bay Trail	1.0	1.0	1.0
Millman Pond Trail	2.2	2.2	2.2
Lapland Pond Trail	0.5	0.5	0.5
Black Mtn Pond Trail	2.3	2.3	2.0
Black Mtn Pond Snowmobile Trail	0.7	0.7	0.7
Black Mtn Summit Trail	2.5	2.5	2.5
Inman Pond Trail	3.5	3.5	3.5
Flybrook Trail	3.0	3.0	3.0
Grassville - Lily Pond Trail	1.1	1.1	1.1
Round Pond Trail	1.3	1.3	1.3
Grassville Trail	0.3	0.3	0.3
Lily Pond Trail	0	0.3	0.3

Bucks Camp Trail	1.8	1.8	1.8
Erebus North Slope Trail	1.2	1.2	0
Erebus South Slope Trail	3.6	3.6	3.6
Ridge Trail	1.8	1.8	1.8
Long Way Trail	2.0	2.0	0
Shelving Rock Ridge Trail	0.8	0.8	0.8
Buttermilk Pond Trail	0	0.8	0
Duck Pond Trail	0	0.7	0
Lake Shore Trail	0.8	0.8	0.8
Red Rock Bay Trail	1.9	1.9	1.9
Fishbrook Pond West Trail	0	0.5	0.5
Trail from Big Hollow Rd. to Viele Pond Rd.	0	1.2	1.2
West Old Farm Trail	0.5	0.5	0.5
Lily to Island Pond Trail	0	1.3	1.3
Island Pond Trail	0	0.4	0.4
Long Pond Trail	1.1	1.1	1.1
Padanarum Spur Trail	0	0.4	0.4
Palmer Pond Trail	0	1.6	1.6
Palmer Pond E. Trail	0	.6	0
Shelving Rock Bay Trail	0	1.9	1.9
Erebus Mount- Longway Trail	0	0.2	0
Second Ridge Spur Trail	0.3	0.3	0.3
Putnam Station (Rt 3 parcel)-Town of Putnam	0	1.0	1.0
Connector to Lake Shoreline Trail (from Shelving Rock Mtn area)	0	0	0.7
TOTAL	**48.2**	**54.1**	**46**

Illegal All-Terrain Vehicle (ATV) Use

Present Conditions:

Use of ATV's is illegal on state land in the Adirondack Park unless being used by a visitor with mobility impairments on a trail designated for ATV use pursuant to the consent decree (Civil Action No. 98-CV-1117) under CP-3 permits. ATVs are also prohibited from DEC administrative trails/roads within the LGWF, including those that are open to full-sized 4x4 vehicles such as the road to Dacy Clearing and Buttermilk Road within the HRSMA. Despite this, these vehicles are a popular form of outdoor recreation for many individuals, and are often used on town and private roads within and adjoining Wild Forest lands in support of other permissible recreational activities (e.g. hunting, camping, and fishing).

A number of locations within the LGWF show evidence of illegal ATV use, which can significantly impact the conditions of trails and roads, natural resources such as wetland areas, and create potential unsafe conditions for other trail users. Examples of areas receiving significant illegal ATV use include the trails of the HRSMA, Jabe Pond, Shelving Rock, Lily Pond, and the Prospect Mountain areas. Illegal ATV use also occurs on small isolated parcels of state land surrounded by private property. An example of this would be the private properties adjoining Fishbrook Pond on the eastern portion of the unit.

Objective(s):

- Eliminate illegal ATV use on state-owned lands; the only legal ATV use is for users with mobility impairments on designated trails, under a CP-3 permit.

Management Actions

- Construct barriers and provide signage at Jabe Pond, Comstock Rd., Dacy Clearing, and Shelving Rock to eliminate illegal ATV and 4x4 access to these areas.
- Erect barricades as needed to prevent or curtail illegal ATV access of Wild Forest lands. All barricades shall be constructed in a manner compliant with the dictates of the APSLMP guidelines.

2. Lean-tos

Present Conditions:

Lean-tos are a quintessential feature of the Adirondacks. Within the LGWF, two lean-tos are found on the Tongue Mountain Range, and another six are associated with the ponds south of Black Mountain. For the most part, the lean-tos of the unit were constructed prior to the advent of lightweight tents which are easily carried by the average person. These lean-tos were often built immediately adjacent to trails, and close to water and firewood sources. This is particularly true of the lean-tos in the Black Mountain area. Lean-tos are sometimes situated in scenic areas, or where a shelter could offer protection from sudden storms (e.g. Fifth Mountain). Many lean-tos feature stone and concrete fireplaces, pit privies, and picnic tables.

During the summer season, backpackers and large groups of overnight users generally occupy these sites. Many backcountry travelers do not bring tents, nor do they possess adequate camping gear. This lack of proper equipment and personal shelter causes serious safety problems when the lean-tos are full and visitors are forced to seek shelter elsewhere.

The APSLMP provides that any "new, reconstructed or relocated lean-tos" in Wild Forest areas will be set back a minimum of 100 feet from lakes, ponds, rivers or major streams. The following lean-tos are located less than 100 feet from water: Lapland Pond, Millman Pond, Greenland Pond, and both lean-to's on Fishbrook Pond. In the future, when major repairs are necessary for one of these lean-tos, it will be moved to the proper setback distance.

Objectives:

- Provide new lean-tos and maintain or relocate existing lean-tos as prescribed by the APSLMP.

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Management Actions:

- Relocate the following lean-tos, once major repairs become necessary: Lapland Pond, Millman Pond, Greenland Pond, and both lean-tos on Fishbrook Pond.
- Investigate feasibility and construct lean-tos following APSLMP guidelines on the newly acquired Northwest Bay tract in the vicinity of Pole Hill Pond.

3. Roads

Present Conditions:

The Adirondack Park is unique in many ways, not the least of which is the fact that over 130,000 people live within the park's boundaries. Because of this, the park contains the infrastructure required to support local communities, including a network of public and private roadways.

Many roads traverse the LGWF. Some of these roads are major thoroughfares that provide access to population centers of the region. I-87 connects the LGWF with cities such as Montreal and New York. New York State Routes 9, 9N, 149 and 9L provide highway speed access to many destinations throughout the unit and beyond.

While these roadways pose impacts and management issues such as litter and stormwater discharge, it is the smaller, local highways that pose the more significant and immediate concern to management of the LGWF.

Other concerns related to these smaller local highways involve routine maintenance and inherent safety issues. The UMP therefore stresses coordination with townships concerning the repair and maintenance of local highways providing access to trailheads. The following is a list of DEC roads in the unit, except those found in the HRSMA, which are listed in the special area management plan.

1) Road southwest of Pike Brook trailhead- This administrative use road is approximately 0.63 miles long and is in relatively good condition the first 1/4 mile but is in poor shape the remainder of the road. It provides access to a private inholding at the end of the road. Future management may include ordinary maintenance.
2) Lily Pond Road is approximately 2.2 miles long and is gated during mud season. The road allows for public motor vehicle access to Lily Pond for camping and fishing during the summer and is designated for snowmobile use during the winter. Some improvements to existing drainage structures are required, not only to improve drainage, but to make the road more driveable. (The "shot rock"-lined french drains can be somewhat difficult for low-clearance vehicles to negotiate). The desired future condition of this road is similar to its current condition, but with improved drainage and driveability through replacement of several of the existing rock-lined french drains with culverts and by improving roadside ditches.
3) Dam Access Road near Shelving Rock is an administrative use road approximately.2 miles long and is in reasonable condition. The desired future condition of the road is the same as its current condition.
4) Jabe Pond Road is approximately .8 miles long and is gated and closed during mud season. This road provides public access to a parking lot from which Jabe and Little Jabe ponds can be reached by foot. Jabe Pond Road is used as a snowmobile route during the winter. A ledge section of the road about half way to the pond will require more maintenance than other portions of this road. The desired future condition of this road

will be the same or slightly improved from its current condition, allowing users the opportunity to access the parking lot near the ponds.

5) Spruce Prospect Tower Road travels approximately .3 miles from the parking lot at the Prospect Mt. Intensive Use area, across Lake George Wild Forest and then crosses over onto private property. This road is an administrative access road used primarily to access communication towers located on Prospect Mt. The first half of the road is in fair condition and the latter half is in poor condition, but could be improved through ordinary maintenance. The desired future condition of the road is the same as its current condition, perhaps with some replenishment of crushed stone on the latter half of the road to re-establish the crown and improve drainage.

6) An administrative road exists between the end of the Lake George Big Hollow Town Road (Big Hollow Reservoir) and a point where the road crosses over onto Prospect Mt. Intensive Use Area just below the parking area at the top of Prospect Mt. This road travels approximately .5 miles through Wild Forest and is in poor condition. The desired future condition of this road segment is to improve as needed for administrative use through routine maintenance procedures.

7) Dacy Clearing Rd. is approximately 1.6 miles long. This road is a seasonal road open to the public allowing access from the Shelving Rock Road to Dacy Clearing. Camping opportunities are located along this road. The desired future condition of the road is the same as its current condition.

8) Palmer Pond Rd. is approximately 1.9 miles long. This road is an administrative road and is in good condition from the parking lot to the Pond. This road will require little work to provide wheelchair access to Palmer Pond. The road continues through the property and exits the parcel near the southern most point. The desired future condition of this road is to improve the road for the purpose of accessible (wheelchair) access to the pond and camp site, as well as administrative use.

Objectives:

- Provide visitors with an internal network of roadways that provide safe access to back country recreational opportunities in a manner that keeps physical and visual trail and resource impacts to a minimum.
- Maintain access roadways to appropriate APSLMP guidelines.
- Coordinate with local government to identify and address roadway maintenance projects that affect trailhead access.

Management Actions:

- Install and maintain water bars and/or other erosion control devices on the Jabe Pond access road at ‘the rock cut’. This portion of the roadway is frequently washed out, and as such provides a hazard to visitors accessing Jabe Pond.
- Post speed limit and regulatory information signs along roadways.

- Replace rock-lined french drain near location of old foundation on Dacy Clearing Road with a culvert (16" diameter x 14-16' long).
- Pursuant to the Consent Decree, rehabilitate portions of Lily Pond Road, including replacement of several rock-lined french drains with culverts (approx.16" x 16'). Approximate locations of the new culverts will be at 0.1, 1.8, 1.9, 2.0, and 2.1 miles along the road (beginning at Route 8). In addition, the roadside ditches will be cleaned/re-established in several locations to improve drainage and reduce erosion. A small number of rocks protruding several inches from the surface elsewhere along the road will be removed and filled in with stone.

4. Parking Facilities and Trailheads

Present Conditions:

A trailhead is the starting or termination point of one or more designated trails at a point of entrance to state land which may contain some or all of the following: vehicle parking, trail signs, and peripheral registration structures. Trailheads are the unit's gateways to the interior. As such, they are the DEC's primary venue for education and usage monitoring. Forest Ranger and Environmental Conservation Officers are not able to speak with every user of the Wild Forest entering via trailheads. Therefore, the signs, brochures, and other informative materials at trailheads are the primary means by which the DEC informs visitors of the rules and regulations regarding use of the interior of the Wild Forest. Trailheads are also the current monitoring points for recording visitor use of any given portion of the Wild Forest.

A trailhead classification system was adopted to provide for consistency in their location and development. Class I trailheads are the least developed and are found at the minor entrances to backcountry. Class II and Class III are associated with heavier used trails with correspondingly increased development.

Managing parking at trailheads is a problem at the popular Class III trailheads on peak weekends and holidays. Due to the high number of users seeking parking, holiday traffic congestion on Route 9N, and limited sighting and braking distances, the Clay Meadows trailhead remains a particularly serious problem despite the existence of an overflow parking area immediately to the north. Steep terrain and short sighting distances constrain trailhead development along most of Rt. 9N in the vicinity of existing trailheads. These constraints are limiting factors in the location and expansion of parking facilities for the entire Tongue Mt. Range. Improper and unsafe parking along Rt. 9N remains an on-going safety and law enforcement problem at the Route 9N access points (Clay Meadows and Deer Leap). The parking situation is a problem shared by DEC, the NYS Department of Transportation (DOT), and the town governments of both Bolton and Hague. See Appendix Seven for descriptions of proposed improvements and construction of new parking lots.

In other popular portions of the unit, such as Prospect Mt. (Lake George Village), ownership and the cost of real estate severely limit location and expansion of parking at these popular trailheads. The limitations on expansion have caused parking overflow at these sites in the past. The result has been visitor parking along roadsides, and occasionally trespassing on private lands and blocking private rights-of-way by parking on roadways and lands adjacent to the trailheads. The actions of local law enforcement and vigorous policing of private lands by property owners control the amount of illegal parking occurring at these sites. However, the lack of parking facilities in these areas also manages to control the number of users occupying a given portion of Wild Forest lands during a given period of time. Thus, limits on parking spaces serve to limit the amount of impact sustained by an area through user passage and camping. Given that the availability of parking space is proportional to user density, the expansion of parking in high demand areas would abate parking problems but would also increase wild forest impacts. Therefore, while the expansion of parking is an issue in terms of public demand, the lack of parking provides a form of indirect control over impacts by restricting the number of visitors capable of using a particular trail network or destination within the unit. Accordingly, the expansion of parking is not seen as a desirable objective for the high use portions of the unit. The trailhead parking area on the Northwest Bay tract is in poor condition and needs to be improved. Current parking area has drainage issues and needs to be leveled to facilitate car parking. No trees need to be removed to improve this parking area.

Objectives:

- Provide and manage adequate trailhead facilities to protect resource values and accommodate visitor needs.
- Indirectly manage interior use by balancing parking lot capacities to interior visitor capacities.
- Eliminate parking on public access roads adjacent to parking facilities.
- Mitigate parking problems in cooperation with affected parties.

Management Actions:

- Restrict parking at Deer Leap to the North side of the road (opposite trailhead) keeping south side of the road as administrative use only. This would discourage parking on the south side of the road in the old roadway and along the edge of Route 9N.
- Barricade with rocks, ledge rock area at Jabe Pond that is illegally being used as a trailer boat launch. Barricade in a manner to allow launching of car-top boats and to allow continued use by users w/ disabilities, but prevent boat trailers from entering the pond.
- Provide a register and regulatory information kiosk at the end of Lily Pond Road.
- Improve trailhead parking area on the Northwest Bay property. Improvement will not require removal of trees, will require drainage work and leveling of area.

- Erect more effective signage alerting motorists to upcoming trailheads along Route 9N. Work with local government, DOT and State Police to establish no-parking zones adjacent to road shoulder parking facilities to reduce unsafe parking.
- Remove litter at and maintain trailheads.
- Improve Parking lot at Palmer Pond as described in fisheries section, increase lot size from 5 to 8 vehicles including 1 reserved accessible spot.
- Develop partnerships with local governments and outside volunteers to maintain and snowplow roadside trailhead parking facilities.
- In the town of Putnam, a 173 acre Wild Forest parcel exists on the north side of the Hutton Square Road. A 3 car parking lot is proposed in an open area adjacent to the north side of the road. No trees will need to be cut to develop the parking lot.
- In the town of Putnam, develop a 3 car parking lot on the north side of route 3, near Putnam Station, for a 170 acre Wild Forest parcel, for recreational access to this parcel. No trees will need to be cut to construct this parking lot.
- Improve an unpaved parking lot for up to 8 cars including 1 accessible parking spot at the end of the Palmer Pond Road. This will require the removal of 12 trees, minor grading and the placement of crushed stone to harden the parking surface

5. Campsites

Present Conditions:

The LGWF has a great deal of land environmentally suitable for camping and the development of designated primitive campsites. However, steep elevations, easily-eroded and poorly-drained soils, shallow bedrock, rock outcrops, sensitive natural community types, wetlands, etc., severely restrict camping opportunities in some popular areas, and create localized demand for available campsites.

Existing camping regulations require camping to be at designated sites or locations that are at least 150 feet or more from a road, trail or water (6 NYCRR § 190.3(b)). The latter is referred to as the “150 foot rule” which permits “at-large” camping subject to those requirements. In most cases visitors resort to this approach when camping at designated sites is not possible.

Informal camping in accordance with the 150-foot rule is permissible throughout most of the unit. Except in the Shelving Rock and the Hudson River Special Management Areas, there are no rules which restrict tent camping or provide separation distances at or near lean-tos beyond those specified in (6 NYCRR § 190.3(b))which states “*Camping is prohibited within 150 feet of any road, trail, spring, stream, pond or other body of water except at camping areas designated by the department*.”

Over the years, usage of the Shelving Rock and Hudson River Special Management Areas by large groups has resulted in significant degradation of natural resources, including loss of undergrowth vegetation, compaction and erosion of soils, and overuse of sanitary facilities. At times, group use has involved illegal activities, such as underage drinking, which is unsafe and detracts from the outdoor experience of the other users of the area. Over a period of years, DEC has closed/relocated campsites in both areas in order to comply with Adirondack Park State Land Master Plan guidelines for primitive campsites and in order to provide secluded settings, where campers can truly experience on the Adirondack Forest Preserve what they have come to expect. In the SRMA, camping is allowed only at designated campsites and/or more than 500 feet from public motor vehicle roads. In the HRSMA, camping is allowed at designated sites only. This management strategy should be codified through the creation of regulations. These and other management actions for the Shelving Rock Special Management Area (SRSMA) and the Hudson River Special Management Area (HRSMA) are included in separate Special Management Area Plans in Section VII of this UMP.

Outside of Special Management Areas camping tends to be less congested and is largely pursued within the interior portions of the unit. The lean-tos found on the trails running from Lapland Pond to Bumps Pond, the Fifth Peak lean-to, and informal 'at-large' campsites along the Lake George shoreline see a large number of visitors in the warm seasons.

The majority of lean-tos and primitive campsites do not normally experience the user pressure and impacts seen at the SRSMA and the HRSMA. However, at times conflicts between visitors and adjoining land owners arise over problems related to sanitation and noise. These problems are relatively minor and do not require the application of new regulations at this time. Camping and fires occurring on islands of Jabe Pond cause continuing damage and should be controlled. Three campsites at the north end of Jabe Pond do not meet the 1/4 mile separation distance. The current designated tent sites are reasonably sight and sound separated from one another and used as a mechanism to support the high amount of use in this area when necessary. Retaining these sites allows Forest Rangers and ECOs to focus occasional high-use periods on these established sites and prevent campers from illegally camping on the shore of the pond, potentially causing destructive results. These three primitive sites will remain in their current location to support the high number of users to this area and protect the shore of the pond. These three sites are more than 100 feet from the water line and are reasonably screened from Jabe Pond. Overall, the number of designated sites and their level of development/improvement appear appropriate for a Wild Forest setting. A formal comprehensive survey of tent sites in the unit needs to be completed.

Presently, there are three campsites making up a small grouping of primitive tent sites at Dacy Clearing. This plan proposes moving campsite 6 to directly north of site 5 to a level area next to the present hitching stalls for horses. This move should initiate use of the campsite and provide horse users an immediate area to hitch horses in stalls therefore lessening impacts to trees in the surrounding vicinity.

Objectives:

- Reduce, eliminate, or mitigate the adverse effects on natural resources that result from improperly located campsites.
- Develop an accurate inventory and map of all campsites facilities within the unit and their condition.
- Comply with the APSLMP campsite guidelines to disperse use.
- Allow for camping in the Lake George Wild Forest in a way that protects the unit's resources.

Management Actions:

- Carry out extensive inventory of all campsites within the Lake George Wild Forest within year 1 of adoption of this plan. Inventory should include coordinate locations of all sites and their condition.
- Monitor primitive campsites within the LGWF, with particular attention given to Jabe Pond, the SRSMA and the HRSMA. Data can then be used to plan campsite expansion, reduction, and/or special use regulations to ensure use of these site remains compliant with Wild Forest guidelines as specified in the APSLMP.
- Designate any new primitive campsites in the LGWF so that campers are directed to locations that can accommodate such use. The goal being to define proper camp locations, disperse use, and limit adverse impacts to resources and other campers.
- Close two primitive campsites on Long Pond, due to APSLMP separation distance guidelines. Past inventory shows two sites within very close proximity at the southwest end of the pond. One of these sites will be closed leaving one site at the southwest end of the pond. Additionally, located at approximately 1/3 the distance from the southwest tip of the pond are 2 sites on opposite sides of the pond that do not meet the separation distance guidelines. A site visit to these campsites will determine which one of these sites should be closed. Should there be a demand for more campsites on this pond in the future, a new site can be placed at the northeast end of the pond that will meet the separation distance guidelines.
- Close one primitive campsite on Inman Pond. The inventory for this area contains three tent sites. One campsite should be removed leaving the two remaining sites out of sight and sound of one another and more than 1/4-mile apart.
- Locate and construct, in compliance with APSLMP, one additional campsite along the southern/southeastern shoreline of Jabe Pond. Currently, overcrowding of the available campsites has resulted in the establishment of illegal campsites along the shoreline and on the islands of the pond.

- Retain three campsites at the north end of Jabe Pond that do not meet 1/4 mile separation distance but that are reasonably sight sound separated in order to adequately handle high-use periods.
- Eliminate and remediate the non-designated campsites established within 150-feet of the shore of Jabe Pond, or any trail or road of the Jabe Pond area.
- Place signs on "Chimney Island" and other islands of Jabe Pond dictating day-use only.
- Develop LAC indicators and standards for vegetative cover for primitive tent sites of the LGWF unit. Primitive campsites will be closed, re-vegetated and/or relocated when these standards are exceeded.
- Non-designated, habitually occupied tent sites in popular areas will be monitored annually according to the LAC indicators designed for the unit. Campsite inventories will be conducted throughout the Wild Forest every 5 years.
- Restore all closed campsites to a natural condition. Fire rings, tree stumps and other evidence of past use will be removed.
- Annual work plans shall include tent site maintenance, rehabilitation and relocation.
- Move primitive campsite 6 at Dacy Clearing, to occupy the area adjacent to horse stalls just north of tent site 5. Campsite 6 will then be a non-drive in campsite.

6. Buildings

Present Conditions:

A few buildings and structures remain on the LGWF lands. The former Observer's Cabin was taken down from the summit of Black Mtn. during the fall of 2005. The State Police regularly maintain their communications tower on the summit. The building was in ill repair and caused flying debris danger to helicopter flights. A utility shed was taken down in late summer of 2006. The remaining timber and refuse will be flown off Black Mtn. in 2007.

Objectives:

- Protect the Wild Forest character and comply with the APSLMP requirements

Management Actions:

- Remove illegal structures and occupancies as discovered.
- Remove the remaining timber from the takedown of the Observers cabin and utility shed on Black Mountain.
- Remove buildings from the recently acquired "Flat Rock" parcel on the east side of Lake George near Anthony's Nose.

7. Campfires

Present Conditions:

Even though many campground and interior visitors use portable gas stoves for cooking, campfire rings or evidence of campfires are found at nearly every established campsite of the LGWF. Blackened rocks, charcoal, hacked trees, and occasionally partially burned garbage, occur at most campsites. With few exceptions, campfires can be built almost anywhere. They occasionally are improperly built in parking lots, in the middle of trails, inside lean-tos, and along the immediate shorelines of the unit's many lakes and ponds. The latter are commonly the remains of fires lit by ice fishermen during the winter months.

Physical impacts associated with campfires in the backcountry are numerous. Although actual fire sites are quite small, a more serious aspect involves firewood gathering which by itself causes widespread impacts. This activity greatly increases the area of disturbance around campsites. The disturbed areas can be 10 to 20 times greater in size than the actual devegetated zone around the campsite. Campfires consume wood which would otherwise decompose and replenish soil nutrients. Excessive firewood gathering has fostered the cutting of live and standing dead trees once all available on-ground sources are consumed. The latter are habitats to many cavity nesting birds and insects. Additionally, the cutting of low growing limbs, even dead limbs, from trees results in visual impacts for other users. Unburned refuse left in fire rings has attracted wildlife in search of food and leads to increased human/wildlife conflicts. The above are common problems encountered at the Jabe Pond, Shelving Rock, and HRSMA campsites. "*There is no question that camp fires have substantial environmental impacts*" (Cole and Dalle-Moll, 1982). The DEC regulations [6 NYCRR §190.1 (a – c)] concerning campfires on state lands where permitted, state that:

a. No fires are permitted except for cooking, warmth or smudge. No fire shall be lit until all flammable material has been removed from its perimeter as is necessary to prevent its spread. No fires shall be left unattended until extinguished.

b. No person shall deposit lighted matches, cigars, cigarettes or other burning tobacco where they will cause fire.

c. No wood, except from dead and down trees or from supplies furnished by the DEC, shall be used for fuel.

Conversely, campfires have historically been associated with the Adirondack camping experience. Many users value the presence of a campfire as a necessary aesthetic component of their backcountry camping experience. While many interior users carry portable backpacking stoves, and many campground area users bring the larger gas ranges, the campfire remains an important social focus if not a necessity for cooking. Campfires may also be prohibited in some areas during periods of high fire risk.

DEC has attempted to build fire rings in popular locations to concentrate fire use in order to avoid excessive damage. DEC staff routinely advocates the use of small portable gas stoves. With the exception of occasional open fire bans during droughts, few DEC rules and regulations currently address fire use.

A concrete fireplace exists at a designated primitive campsite on the south shore of Fishbrook Pond. The plan proposes to remove this concrete structure.

Objectives:

- Reduce the effects of recreational use of campfires on LGWF natural resources and the natural scene as viewed by visitors.
- Provide a safe, quality camping experience for users desiring a campfire.
- Reduce the potential for fire escape from campfires.

Management Actions:

- Remind / educate users about the "Leave-No-Trace" program which stresses proper fire use in appropriate locations, encourages greater use of portable gas stoves, and explains the rationale for avoiding the use of campfires.
- Document campsite areas where serious ecological and/or visual impacts due to fire use are occurring as part of the campsite inventory and monitoring program.
- Restrict or prohibit fires by regulation in roadways and parking areas on State lands.
- Masonry hearths may be provided in areas of heavy visitor use. As masonry hearths provide better campfire containment and concentrate use to a smaller area, they minimize fire risk, and reduce the area of impact within the campsite.
- Remove and clean up all illegal fire rings and fire places as they are found.
- Remove the concrete fireplace on the south shore of Fishbrook Pond at the designated primitive site.

8. Sanitation

Present Conditions:

Improper waste disposal can affect the environment and the health and safety of Wild Forest users. Most overnight use is concentrated around lakes and streams. As use increases, water quality protection becomes increasingly important. Some hikers have reported contraction of protozoan parasitic diseases, such as giardiasis, from contaminated drinking water sources. Improper disposal of human waste in the backcountry, coupled with high concentrations of users, compounds this problem. To some extent, this problem has been alleviated in the unit's interior through provision of privies at lean-tos and other sites where users congregate.

However, it is not uncommon to observe improperly disposed human waste within a few feet of any trail in the unit.

Proper human waste disposal is of critical importance in regularly visited places. DEC uses pit privies (outhouses) in areas where use levels are usually high and adequate dispersal of "catholes" - buried wastes - is difficult. The APSLMP requires that all pit privies be located a minimum distance of 150 feet from water (APSLMP, 2001, page 21). Properly sited and maintained within the LGWF unit, pit privies have been effective in minimizing health risks and water contamination. Chemical, vault and composting toilets have not been used in the unit. The appropriateness of these toilets in Wild Forest has been questioned (Cole, 1989), but their use in Wild Forests seems compliant with APSLMP and DEC regulations. The basic guidelines section of the Wild Forest Standards published in the APSLMP states that lean-tos, ranger stations, storage sheds, horse barns and similar structures will be set back a minimum of 100 feet from the mean high water mark of lakes, ponds, rivers or major streams, and that all pit privies, seepage pits or leach fields will be located a minimum of 150 feet from any lake, pond, river or stream. Decisions about appropriateness involve tradeoffs between increasing the number and extent of toilet facilities for sanitary benefits and reducing levels of use in problem areas.

Soaps, shampoos, and other wastes affect the delicate chemical/biological balance of area waters. Soap suds and leftover food scraps can be found on the shores of many lakes and streams. This is a recurring problem in high use areas such as Shelving Rock, the HRSMA, and . Users of the interior of the unit also report regularly finding food scraps and other wastes along the shorelines of Lapland, Fishbrook and Millman Ponds.

Public cooperation with the "Carry-it-in, carry-it-out" policy for litter removal has helped considerably, however, litter still remains a problem in some areas (e.g., trailhead parking facilities, popular campsites, lean-to locations, and in fire rings). Clean up of broken glass and unburned refuse is time consuming and costly, and presents a safety risk to DEC staff and volunteers involved in clean-up activities.

Objectives:

- Prevent or mitigate the adverse chemical/biological and visual effects that result from the improper disposal of human waste.
- Provide a quality camping experience

Alternatives:

Alternatives related to sanitation revolve around what type of facilities to provide and where facilities should be provided. Sanitation facilities handle either septic waste, or trash (metal cans, plastic, paper, etc.). Types of sanitary facilities handling septic waste range from nothing, to conventional privies, to portable facilities (e.g., 'Port-A-Johns'), to sophisticated composting outhouses. Location choices range from limiting facilities to high use trailheads and parking

areas to providing them at all designated campsites. The decision on the appropriate alternative is essentially about defining the proper balance between the level of sanitation necessary to protect unit resources and the level of comfort/convenience required by users of the LGWF.

In terms of the appropriate type of sanitary facility to provide, the DEC's standard pit privy has proven an acceptable facility from the standpoint of cost, maintenance and appropriateness in a Wild Forest setting. The provision of no sanitary facilities is not acceptable in high use areas as human waste may have significant adverse impacts on unit resources and the quality of user experience. Provision of portable facilities within the interior is considered inconsistent with a Wild Forest setting. In certain highly accessible and heavily used areas such as Clay Meadows, Deer Leap, Hogtown and the Buck Mountain (Pilot Knob Rd.) Trailheads, however, porta johns would serve as a peripheral control in an attempt to direct users to one location and prevent the current situation of users littering the woods around these areas with countless cat-holes or improperly deposited waste. Porta-john facilities could have advantages in terms of cost, cleanliness and maintenance, since they are typically provided and serviced by vendors. This fact would allow for use in one area and would avoid the difficulty involved in moving a heavily used privy every couple of years to a new location. In a large parking lot setting, adjacent to heavily used roads, these facilities also present minimal contrast/conflict with the character of the area. Composting toilets may also offer advantages in terms of minimizing impacts on resources and maintenance costs. Composting facilities, however, are expensive and more complicated to construct and maintain, suggesting that they may not be appropriate within these heavily used areas.

In terms of where it is appropriate to provide improved sanitation facilities, the traditional approach has been to provide privies at high use areas such as parking lots and lean-tos. Given the concentrated use these areas receive, providing some sort of sanitary facility is considered essential. Providing a privy at every designated campsite is also an option. However, in most locations, these sites do not receive the sort of concentrated and continuous use that would require such facilities. In addition, provision of privies at each site would have significant cost and maintenance implications, and in certain settings might detract from the backcountry camping experience sought by users of these sites. Consequently, the DEC believes the best option is to continue providing improved sanitary facilities at high-use areas and in special situations where necessary to meet basic needs.

Management Actions:

- Information and education efforts and "Leave-No-Trace" programs will stress proper treatment of drinking water and the need for proper human waste disposal.
- The "Carry-it-in, Carry-it-out" policy for litter removal by visitors will be given renewed emphasis. All litter must be bagged and packed out. Users will be encouraged not to burn garbage in fire rings.
- DEC staff will advise users of the unit camping within the Lake George watershed of LGA water use regulations.

- Use public education and trailhead outreach programs to help deter the use of soap or detergent, and/or the disposal of food scraps in any waters of the unit.
- When possible campsites will be located where human waste disposal will not be a problem (for example, where soil is deep).
- Provide accessible porta-johns in parking lots of heavily used Clay Meadows, Deer Leap, Hogtown and Pilot Knob Rd. Buck Mt. trailheads.

9. Signs

Present Conditions:

Signs are provided to mark trails, minimize impacts, and provide safety information. Signage is kept to a minimum to avoid interfering with Wild Forest values and guidelines.

Currently, Lands and Forests, Operations, and Fish and Wildlife all maintain signage in the unit. Trailheads and much of the unit's boundaries are not well identified. Trailhead signing is limited to small signs on standards. Several entrances have register boxes which provide minimal information. Interior signing is limited to trail junctions, special information and regulatory signs.

Progress is being made to use smaller sign boards (6"x 16") at interior locations elsewhere in the Adirondack State Park. Sign theft and vandalism is an occasional problem near Wild Forest boundaries (e.g., Pike Brook Road and Clay Meadows).

Objectives:

- Provide for the minimal use of signs necessary to manage and protect the Wild Forest resource and provide for user safety.
- Maintain current signing in compliance with Wild Forest guidelines: i.e., made of rustic materials and limited in number (APSLMP, 2001, Page 22).

Management Actions:

- Update and maintain sign inventory annually.
- Ensure signage for ADA trails is compliant with ADA regulations.
- Coordinate and review all sign needs through a single unit manager.
- Signs may be erected at trail junctions, showing directions with arrows; wording will be reduced to the minimum necessary.
- No new trail signs or plaques of any kind will be placed in the unit without written DEC approval.
- Install 'No Motorized Vehicle Use' signs at the Deer Leap, Clay Meadow, Pike Brook Road, and Jabe Pond trailheads as a means of controlling ATV operation on foot trails.

- Replace missing Wild Forest boundary signs at the Pike Brook Road trailhead.
- Minimize regulatory signs at interior locations in favor of signs posted at trailheads or access points and published, where feasible, in brochures and maps or otherwise made available to users prior to entry into the unit.
- Keep signs at trailheads limited to sign standards and register boxes, not nailed to trees.
- Install Kiosks at Clay Meadows and Deer Leap to advise visitors of the level of difficulty involved in hiking the trails of the Tongue Mountain Range. Signs should include information concerning recommended gear, minimum safe party size, emergency procedures, and basic trail regulations.
- Improve kiosks information advising visitors of the level of difficulty involved in hiking any trails of the unit found to have a high incidence of rescue calls. As with the recommendation for the Tongue Mountain Range, signs on difficult trails should include information concerning recommended gear, minimum safe party size, emergency procedures, and basic trail regulations.
- Clearly mark the limits of Special Management Areas.

10. Water Access Points

Present Conditions:

There are four boat launches and one fishing access site within the planning area and administered by the DEC Bureau of Fisheries; the Brant Fishing Access Site (technically a boat launch - see below), the Horicon Boat Launch (located on the Southern end of Schroon Lake), The South Bay Boat Launch (located on the South Bay of Lake Champlain), the Mossy Point Boat Launch (located on the north east end of Lake George) and the North West Bay Fishing Access Site (located on the north west arm of Lake George).

1. Brant Lake Fishing Access Site :

The Brant Lake Boat Launch Site is a modest boat launching site which was constructed on a 0.55 acre parcel of property owned by the town of Horicon. While currently named the Brant Lake Fishing Access Site to convey the intention that the facility be used primarily as a launch for smaller boats, most often for fishing, the site is and was intended to be for the launching of trailered boats. This distinction is important because the State Land Master Plan uses the term fishing access site for facilities where trailers are intended to be unloaded without backing into the water. The site was used for many years as a public boating access site since being acquired by the town in 1960. For many years, the town of Horicon and DEC discussed a cooperative agreement and modernization of the facility.

After numerous public meetings, the town of Horicon Town Board met in April of 1989 and authorized the Town Supervisor to enter into a lease agreement with DEC to modernize the Brant Lake facility. The lease was signed in May of 1989 and is to run for 25 years, expiring in

May of 2014. Prior to the actual construction of the facility, DEC was required to obtain a wetlands permit from the Adirondack Park Agency. During the permitting process, the Adirondack Park Agency received opposition to the project from the Brant Lake Association and other interested parties. To satisfy the opposition, the town agreed to impose a lake wide speed limit on the lake and to limit the number of boats on the lake by curtailing parking along the highway.

The current Brant Lake Boat Launch is a simple yet very functional facility. Modernized in 1994, it consists of a single lane concrete ramp with a small aluminum floating dock along one side. There is a concrete pad which seasonally accommodates one porta-john, which is accessible for persons with disabilities. The porta-john is contained in a wooden enclosure. The Town of Horicon provides day to day maintenance of the site and does an exceptional job of keeping the facility clean and neat. Each year they place and maintain flowers which add to the attractiveness of the site. Signs warning boaters of the hazards of invasive aquatic species are posted and maintained by DEC.

The primary limitation of the current boat launch is the small amount of available parking. There is currently room for 11 vehicles with trailers and two vehicles without trailers. The site is often full and it is likely that the present amount of parking is insufficient for this lake which is over 1,300 acres in surface area.

Since the construction of the Brant Lake Boat Launch in 1994, the facility has become very popular with boaters, both local and non-resident. The town of Horicon has urged DEC to acquire nearby property with an eye toward expanding the parking area. During the initial 5 year planning period of this unit management plan, no expansion of the present facility is anticipated. However, during the planning period the DEC and the town of Horicon will investigate the potential for expanding the capacity of the site by acquiring nearby property. This investigation will include determining local support for an expansion of the present facility. This investigation will also include an assessment of Brant Lake's boating use carrying capacity utilizing methodology agreed to in further interagency discussions. If there is local support for an expansion of the facility and nearby property is available, the town and DEC will pursue acquisition of this land. Prior to any expansion of the present facility this unit management plan will be updated or revised and the proposed expansion will be discussed and included in a revised schedule of implementation.

2. Horicon Boat Launch:

The Horicon Boat Launch is located off the East Shore Road (County Route 15) east of the hamlet of Pottersville and is classified as Intensive Use. It is situated on the extreme south end of Schroon Lake, just east of the outlet. This facility was reconstructed circa 1988 and the parking area was paved in 1990. This is one of the nicer boating access facilities in the region and includes a spacious ramp that is 68' wide. When the aluminum floating docks are in place along both sides of the ramp, the ramp width is effectively reduced to 55', still spacious when

compared to most other Region 5 facilities. The two docks measure 6' wide by 70' long and line both sides of the ramp. The docks are fastened to steel sheet pile bulkheads which provide shore protection in the immediate dock and ramp area. Adjacent shore areas are protected with placed stone. The parking area is moderately large and can accommodate 50 vehicles with trailers and 5 vehicle without trailers. One vehicle with trailer and one vehicle only parking space are reserved for persons with disabilities. The Horicon Boat Launch is included in Consent Decree No. 98-CV-1117, hereafter referred to as "Consent Decree". This boat launch facility has been made accessible to persons with disabilities. Because the existing toilet facility was too small to be made accessible, it was removed and a commercial portable toilet was installed. The Horicon Boat Launch is the subject of a long-term maintenance agreement between DEC and the Town of Horicon, and the town does an excellent job of day to day maintenance of the facility. The facility is in the Warrensburg "working circle" of Region 5 DEC Division of Operations. Annual maintenance including dock installation and removal is handled by DEC. The Horicon Boat Launch is one of the best maintained facilities in the state and is a very important facility to the Town of Horicon. No significant modification of the Horicon State Boat Launch is anticipated during the 5-year planning period covered by this unit management plan. However the site has one significant recurring maintenance problem which must be dealt with; larger power boats often use engine thrust to power on to the boat trailer when the boats are being retrieved from the lake. This "power loading" digs a hole at the base of the boat ramp and deposits a large mound of material beyond the ramp. This condition causes a double hazard; a deep hole in which boat trailers can get stuck and a shallow mound which engine props can hit and sometimes results in damage. The power loading mound at the Horicon Boat Launch is currently a significant problem and must be dredged. This work will be done during the planning period at the earliest opportunity. All required permits will be obtained including a Joint Application (New York Water Quality Certification and US Army Corp of Engineers) and the Adirondack Park Agency will be consulted.

3. South Bay Boat Launch:

The South Bay Boat Launch is located on NYS Route 22, a short distance west of where the highway crosses the south bay of Lake Champlain. This Intensive Use facility features two, double wide ramps which is the stated standard for Lake Champlain boat launching facilities according to the Strategic Plan for Modernization of Department of Environmental Conservation Water Way Access Facilities in New York State (1987). Because this area of Lake Champlain is subject to very large fluctuations in water level, the ramp is necessarily quite long, which at times requires vehicles and trailers to be totally on the steep pitch when launching or retrieving boats. This may be problematic for launching with lighter vehicles and for inexperienced operators. Shoreline protection consists of steel sheet pile bulkheads. A modern floating dock system was added in 1992. This dock system includes a center dock which separates the two ramps, and floating docks are provided on the outside edge of both ramps. These outside docks each wrap round the bulkhead, which provides for additional dock space while vehicles are being brought to or returned to the parking area.

The paved parking can accommodate 45 vehicles with trailers and 10 vehicles without trailers. The parking area reached a serious state of disrepair in the 1990s. The poor condition of the parking lot was attributed to inadequate drainage. The parking area was reconditioned in 1999. Prior to repaving, site work included improved drainage. The reconditioning also included installation of a trench drain at the top of the ramp to prevent sheet flow from the parking area into Lake Champlain. The repaving and modification of the parking area did not include any increase in the amount of available parking. Prior to the 1999 improvements, the facility included a small wooden vault toilet which was too close to the lake. This building was removed and replaced with an accessible porta john. The porta-john is screened from view by a wooden enclosure. The South Bay Boat Launch is a popular facility and is important to the local economy in that it attracts a significant number of fishermen. It is a popular facility with tournament bass fisherman, many of whom stay in motels in nearby Ticonderoga and Whitehall. No expansion or significant modification of this facility is projected during the initial 5 year planning period of this unit management plan. Maintenance will be undertaken as needed.

4. Mossy Point Boat Launch:

The Mossy Point Boat Launch is a large launching facility located in the Town of Ticonderoga on the northeast arm of Lake George and is classified Intensive Use. It is less than 1 mile from the village of Ticonderoga and constitutes the primary state access to the lake. Mossy Point Boat Launch is located off Black Point Road, and with parking for 100 vehicles with trailers, it is one of the largest facilities in Region 5.

Mossy Point Boat Launch was constructed circa 1969 and has had not major reconstruction since that time. As such, it is a site that will need rehabilitation in the not so distant future. Because the site is well protected from wind and ice damage it has held up comparatively well and a major rehabilitation is not expected during the 5 year planning period. However, major repair of the wood shore protection, the dock system and replacement in kind of the concrete ramp is probable in a 10 year time frame. The facility consists of two double wide launch lanes, bisected by a central dock. The central dock has a fixed wooden section and a floating aluminum section. There are also two floating wooden docks which are positioned on the outer edge of each launch lane. These floating docks may require replacement during the planning period. There is a pump out facility where boats with sanitary toilet facilities can pump out their tanks. This is an important feature to protect the Lake George water quality.

Currently there is a wooden toilet building which is a “vault type” facility where much of the refuse is reduced on site, but does require periodic pumping. The town of Ticonderoga, in concert with the adjacent town of Putnam, has applied for grant monies to create a sewage treatment district along the Black Point Road. This district would collect the sewage effluent from residences and facilities along Black Point Road and process them at the Ticonderoga Sewage District # 5 Treatment Facility, located in the village of Ticonderoga. The plan calls for installation of sewage grinder pumps at each home or facility so that the sewage may be efficiently pumped in modern low pressure sewage lines. The proposed plan includes installation

of a sewage grinder pump on the Mossy Point Boat Launch facility, with the intent that DEC change its toilet facility to a modern flush toilet system. Very likely, once the new sewage district is formed it will be mandatory that any houses or facilities tie into the system. The creation of the Black Point Sewage District is discussed in this unit management plan because the DEC must give permission to the sewage district to install the grinder pump and the connecting line across state property. The legal mechanism to allow this to occur is most likely a Use and Occupancy agreement between DEC and the town of Ticonderoga. However the exact legal instrument to allow this work to occur is not yet definite. The Mossy Point Boat Launch access road and parking area have been recently repaved. Many complaints about the poor condition of the paving had been received in recent years and local government officials had urged DEC to undertake this project. Because the grinder pump installation cannot be accomplished prior to the scheduled paving project, consideration must be given as to how best not to damage the new paving. It is possible that the new sewage line can be installed while circumventing the paved areas. An alternative may be to install the new line by directional boring under the parking lot. In any case, the project should be undertaken in such a manner as to have the minimum impact on the state facility. The creation of the Sewage District along Black Point Road is considered important in protecting the water quality of northern Lake George.

5. Northwest Bay Brook Fishing Access Site:

Located off Route 9N approximately 5 miles north of the village of Hague, this facility is a Wild Forest fishing access site which does not provide for trailered launching. The site is intended as a facility to hand launch canoes, kayaks, and very small boats. Constructed in 1968, the launch is about .6 miles up Northwest Bay Brook, and it is a winding paddle downstream to the lake. This facility consists of a paved driveway and parking area, large enough to accommodate approximately 15 cars, and a small beach launching spot on the bank of Northwest Bay Brook which includes a vehicle turn around. There are no other amenities.

North West Bay Brook Fishing Access Site continues to provide limited access for those Lake George recreationists that wish to paddle on Lake George. The Lake is often windy and North West Bay is very exposed when the wind is from the south. However the site provides acceptable access for a specialized group of users. The site is in need of repaving, and the parking rails are in need of replacement. No expansion of this facility is projected during the during the initial 5 year planning period of this unit management plan.

Invasive species signs:

Invasive species, especially nuisance aquatic invasive species are a major concern to all stakeholders associated with the Adirondack Park's lakes, ponds and rivers. In recent years the Bureau of Fisheries has received requests from town governments, lake shore associations, environmental groups and concerned individuals to post DEC boat launches and fishing access sites with signs informing the public about the environmental hazards of introducing invasive

species and steps to prevent their unwanted spread. For several years it has it has been the Bureau of Fisheries procedure to post all boat launching sites and fishing access sites with signs that caution users about the spread of invasive species. Recently, the Adirondack Park Agency has requested the DEC to formalize this sign posting via the unit management planning process. The Bureau of Fisheries will post invasive species prevention signs at all the boat launches and fishing access sites associated with the Lake George Wild Forest. These sites include, but are not limited to: The Horicon Boat Launch, The Brant Lake Fishing Access Site, The Mossy Point Boat Launch, The North West Bay Fishing Access Site and the South Bay Boat Launch Site.

Beyond Lake George, there are several large ponds, smaller lakes and navigable waterways in the LGWF. Many visitors canoe and fish on Jabe Pond, despite the lack of a navigable connection to larger, more remote water bodies. The shoreline of Palmer Pond is suitable for the development of a small car-top boat launch and parking lot. Palmer Pond is regulated by NYCRR Title 6, Part 196.5(a) which states: Operation of mechanically propelled vessels is prohibited on Palmer Pond. DEC operates a boat launch site at the west end of Brant Lake. Jabe Pond and Little Jabe Pond are regulated by NYCRR Title 6, Part 196.5) which states: The Operation of mechanically propelled vessels other than those powered by a motor with a rating of 10 horsepower or less, is prohibited on Jabe Pond and Little Jabe Pond. The HRSMA has several areas ideally suited for development as car-top boat launch sites.

Objectives:

- Provide car-top, hand launch facilities, where possible, in areas known to have a demand for water-borne access to attractive features or facilities of the Wild Forest.
- Manage the size and location of launch facilities to prevent user congestion on any one water body or portion of a large water body.
- Provide appropriate sanitary facilities at launch sites
- Increase public awareness of invasive species threat to unit waters from access sites to water bodies**.**

Management Actions:

- Install rock barriers at Northwest Bay boat launch site to allow car-top boats but prevent boat trailers from entering water at launch site.
- Install signage at water access points to educate users of the threat of invasive species transmission through water access points.
- Post Invasive Species prevention signs at all boat launch sites.
- Repave Northwest Bay Brook fishing access site parking lot.
- Dredge power loading mound at Horicon Boat Launch site
- DEC and town of Horicon to investigate potential to expand capacity of boat launch site by acquiring adjacent property**.**

11. Plaques and Monuments

Present Conditions:

One Plaque and one Monument were found on the Lake George Wild Forest at the time of this Unit Management Plan.

Objectives:

- Ensure that signage in the unit complies with APSLMP Wild Forest guidelines

Management Policies:

- No new memorial, sign, plaques or monuments of any kind will be placed in the unit, however existing ones may remain. It will not be the responsibility of DEC to maintain these signs, plaques or monuments that have had private sponsorship.

12. Picnic Areas

Present Conditions:

The Alma Farm Park was the summer home site of Theodore Meyer, owner of the Alma Farm. It appears, from a review of historical documents and conversations with the Town of Bolton Historian, that the site and spring have been used informally over the years as a picnic area. The nearby CCC camp, the historic Alma Farm, and the Meyer family were honored at a dedication ceremony performed in 1997, during which it appears that at least some of the sites facilities were installed. The picnic area currently includes a historical sign, 3 picnic tables, 3 fireplace units consisting of: 1 concrete fireplace, 1 metal grill unit, and 1 metal fire ring unit. Two privies are located in the woods behind the picnic area. The concrete remains of a spring house are also located at this picnic area. The spring is reported to have been flowing as recently as 1999, but was apparently not flowing in the fall of 2006. The road widens into a small paved parking area at the picnic area allowing parking for approximately 2 cars. A wooden rail separates the picnic area from the parking area. This small picnic area is mowed and provides an ideal location to rest and enjoy the surroundings. Exact use figures for the picnic area do not exist, but anecdotal evidence suggests that use of the site is light, but regular.

Objectives:

- Provide picnic areas in appropriate locations in compliance with APSLMP guidelines.

Management Actions:

- The picnic area will be officially adopted as part of this Unit Management Plan. The metal fire ring and metal grill located at this picnic area may need to be replaced with a different type of fireplace unit; APA will be consulted on this matter. This site may also be upgraded to allow improved accessibility for persons with disabilities. Any upgrades of this nature will be done with APA consultation.

D. Public Use and Access

1. Public Use

Present Conditions:

Accurate figures for the public's use of the unit are available from some registries within the unit. Incomplete trail register data exists for some trail systems but some trends can be noted on public use. Primarily, use is concentrated seasonally at a few locations. Regulations do exist for certain activities such as camping group size and length of stay, and DEC requires a Temporary Revocable Permit for most organized activities consisting of large gatherings or activities that may have an effect on the area.

Objectives:

- To enforce existing laws, rules, regulations and policies.
- To permit and encourage recreational use levels consistent with the protection of the unit's natural resources and character
- To provide users with information on the unit and its facilities, and the appropriate use of the area.
- To identify and develop methods to monitor public use accurately.
- To minimize user conflicts by providing appropriate information to visitors

Management Actions:

- Develop a better Lake George Wild Forest brochure that details locations in the unit. The brochure will include a unit map showing present boundaries, parking lots, lean-tos, and other important facilities, as funds are made available. Such a map will be updated periodically as facilities are created or removed. The DEC website may also be updated to include information relative to the unit
- Supplement trail register data with site sampling techniques (trail timers, head counts, infrared counters, surveys, etc.) to determine actual public use numbers.
- Adopt regulations to limit the maximum number of persons per designated primitive tent site to eight.

2. Access for Persons with Disabilities

Present Conditions:

Opportunities for recreation by people with disabilities currently exist in the LGWF. Two road systems, open to motor vehicle use, that presently provide accessibility opportunities at final destinations include Lily Pond and Jabe Pond Roads. An accessible privy was constructed and installed at an accessible campsite located at the end of Lily Pond Rd. At Jabe Pond, a gate has been removed from the parking area to allow people with disabilities the opportunity to travel an additional few hundred feet to the pond in order to provide motorized access to persons with disabilities for camping, fishing and launching of car-top boats. Both the Lily Pond and Jabe Pond roads are closed to all motorized vehicles during mud season – typically early spring and late fall – in order to prevent the roads from becoming damaged during these sensitive periods.

Another area that will continue to be improved for persons with disabilities is the Hudson River Special Management Area. Accessible picnic tables and fire places have been installed at almost all of the sixteen designated primitive campsites in this area and work to make the pit privies accessible is ongoing. In addition, ordinary maintenance has been performed on the roads to Gay Pond, Pike's Beach and Scofield Flats in the HRSMA to improve accessibility. Further discussion of opportunities for recreation by people with disabilities in the Hudson River Special Management Area is found in the HRSMA sub-plan in Section VII of this UMP.

As required in the Consent Decree, the parking area at Hague Brook has been rehabilitated to accessible standards. In addition, a 30' by 12' accessible bridge has been constructed over Hague Brook.

The Consent Decree also requires that DEC construct horse mounting platforms at several locations within the LGWF. The original Consent Decree required mounting platforms at Millman Pond, Bumps Pond and Fishbrook Pond. In June 2006, a platform was built at the Upper Hogtown parking lot area as a substitution for the proposed platform at Millman Pond, because the trail to Millman Pond is neither designated as a horse trail nor appropriate for such a designation. A mounting platform was also constructed at Dacy Clearing in June, 2006. Due to site limitations, trail conditions and topography between Dacy Clearing and Bumps and Fishbrook Ponds, a substitution project is proposed to upgrade two campsites to ADAAG specifications rather than construct mounting platforms at Bumps and Fishbrook Ponds. These two sites will be located on the eastern shore of Lake George within the intensive use area.

Objectives:

- To the extent practicable, provide people with disabilities and groups opportunities to experience the LGWF in ways similar to those without disabilities.
- Comply with the ADA Consent Decree, which concerns maintaining and

expanding accessibility to programs on state lands under DEC's jurisdiction..

- All designated accessible facilities should comply with ADA standards for materials, dimensions, slope, etc.

Management Actions:

- Improve and sign the access road from the end of Jabe Pond Road to Jabe Pond to serve as an ADA accessible roadway for people with disabilities.
- Construct and/or improve a campsite reserved only for people with disabilities on Jabe Pond. Construct site to ADAAG standards. Assess historic sites along northern shore of Jabe Pond for possible location of an accessible campsite.
- Construct and/or improve a campsite reserved only for people with disabilities on Palmer Pond. To facilitate access, the parking lot will be brought up to standards and trail hardened to campsite. Water access will also be developed as to allow people with disabilities to utilize pond. (These accessibility improvements were not mandated by the Consent Decree).
- Incorporate signage at trailhead access points to identify accessible trails, explain rules and prohibit camping and parking of motor vehicles in ADA reserved areas.
- Pursuant to the Consent Decree, rehabilitate portions of Lily Pond Road as described earlier in this Section (3. Roads).
- Annually, maintain Lily Pond Road and Jabe Pond Road to allow passenger vehicle access for persons with disabilities to provide opportunities for fishing and camping.
- Originally in the Consent Decree, horse mounting platforms were scheduled to be constructed at Fishbrook and Bumps Pond. Due to site restrictions, a substitution is proposed to upgrade two boat-access intensive use campsites on the eastern shore of Lake George to make them accessible to persons with disabilities.
- As part of the Consent Decree, construct a fishing pier at South Bay that will be approximately 300 feet long and 8 feet wide with a 18' x 24' platform at the end that will incorporate principles of universal design from the parking lot to the end of the pier.

SECTION V: SCHEDULE OF IMPLEMENTATION

The following tables outline a schedule for implementation of the proposed management actions and their estimated costs. Accomplishments are contingent upon staffing levels and available funding.

Annual Maintenance	
Annual maintenance on roads to Gay Pond, Pike's Beach, Scofield Flats, and the Bear Slides, as well as the DEC portion of Buttermilk Road.	$15,000
Maintenance of campsites, privies, trailheads, trails; litter removal; blowdown removal; maintenance/replacement of gates/barriers, signs, and picnic tables in the HRSMA.	$10,000
Annual campsite inventory in the HRSMA	$1,000.00
Boundary line maintenance (314 miles) on a 7 year schedule.	$15,000
Blowdown removal, maintenance of trails, pit privies, and lean-tos.	$10,000
Stock fish in unit waters consistent with Bureau of Fisheries policies and the Final Programmatic Environmental Impact Statement on Fish Species Management Activities of the Department of Environmental Conservation Division of Fish and Wildlife (1980).	routine program funding
Conduct biological, chemical and/or physical surveys of selected unit waters to assess mgt. needs and determine progress towards the stated objectives.	15 staff-days
Monitor wildlife populations through analysis of harvest data. Inventory non-game endangered, threatened species.	10 staff-days
Maintain access roads to Dacy Clearing, Lily Pond, Palmer Pond and Jabe Pond to provide public access via automobile.	$15,000
Annual surveys for invasive species - early detection and rapid response. Dacy Clearing annual check.	$3,000
Annual control program for invasive plants.	$3,000
Maintain/install barricades as needed, to prevent illegal ATV use.	$1,500
Update and maintain signs and sign inventory annually.	$1,000
Routine maintenance at boat launches, fishing access sites, and canoe launches as required, including; mowing, paving repairs, installation and removal of docks, and operation of toilet facilities.	$5,000
Total	**$79,500**
	25 staff-days

Year 1	**Estimated Cost**
Open and rehabilitate 1,000 feet of CP-3 road from current OSI property to the Bear Slides.	$15,000
Enact HRSMA-specific regulations, including: camping at designated sites only; establishing a Day Use Area; camping-by-permit-only; and, limiting fires to DEC provided fireplaces.	normal program funding
Rehabilitate Pike's Beach access road, modify campsites and install additional pit privy to ADAAG Standards.	$20,000
Rehabilitate Scofield Flats access road and modify campsites to ADAAG Standards.	$8,000
Rehabilitate Buttermilk Road and construct two additional campsites to ADAAG Standards.	$100,000
Rehabilitate road at Darling's Ford and install additional picnic tables to ADAAG Standards.	$12,000
Gay Pond Road maintenance, including culvert installation and resurfacing where necessary.	$40,000
Construct accessible path in the "Pines".	$50,000
Install six additional accessible picnic tables in the "Pines".	$3,600
Allow CP-3 permittees to access site #6 in the HRSMA with motor vehicles.	$100
Enact regulations establishing SRDUA.	normal program funding
Erect "Day Use Area" signage at Shelving Rock, and HRSMA.	$500
Develop regulation prohibiting camping within 500' of roads in Shelving Rock Area.	1 staff-day
Restrict or prohibit fires by regulation in roadways and parking areas on State lands.	2 staff-days
Install barriers at Deer Leap, Comstock Rd., Palmer Pond.	$4,000
Maintain / Replace barriers in the LGWF to prevent motor vehicle use.	$8,000
Install invasive species signage at water access points in the unit including; Northwest Bay, Jabe Pond, Palmer Pond, Lily Pond, and Mossy Point.	$2,000

Develop and print/ update brochure.	$5,000
Break apart and remove concrete fireplace at Fishbrook Pond at primitive campsite.	$500
Conduct comprehensive campsite inventory on the LGWF including coordinates of campsite locations and conditions of individual sites.	15 staff-days
Install culverts, improve ditching and install additional road surfacing material on Lily Pond Road.	$40,000
Locate and construct, in compliance with APSLMP, one additional tent site along the southern/southeastern shoreline of Jabe Pond.	$250
Reroute an approximate 0.25-mile section of the hiking trail below the summit of Buck Mountain.	$2,000
Adopt, mark and improve the present trail (approximately 5 miles) on the recently acquired 1,300 acre Northwest Bay Tract. It will be designated a Class III foot trail.	$8,000
Improve trailhead parking area at the Northwest Bay Tract. Leveling and drainage.	$3,000
Improve and sign the access road from the end of Jabe Pond Road to Jabe Pond to serve as an ADA accessible roadway for people with disabilities CP-3 permits.	$3,000
Remove markers on non-designated trails on state land in the Lapland Pond area. as well as any other markers on non-designated trails.	$100
Maintain existing no camping signs and or add day use only signage on “Chimney Island” and other islands of Jabe Pond.	$300
Eliminate and remediate the non-designated campsites established within 150-feet of the shore of Jabe Pond, and any trail or road of the Jabe Pond area.	$500
Relocate and/or harden (install stepping stones, log bridges, etc.) wet sections of the Lapland Pond to Fishbrook Pond trail.	$1,000
Close Tongue Mtn range to mountain bikes by erecting signs.	$500
Remove unofficial markers that have been placed on non-designated trails (e.g., Pilot Knob, and Pilot Knob Mt.).	$100
Erect signage at Jabe Pond, Comstock Rd., Dacy Clearing, Shelving Rock and other areas in need to eliminate illegal ATV and 4x4 access.	$500

Install and maintain water bars and/or other erosion control devices on the Jabe Pond access road at 'the rock cut'.	$3,000
Remove the utility shed and other refuse on Black Mountain.	$1,000
Close two primitive campsites at Long Pond that do not meet 1/4 mile separation.	$150
Close easternmost campsite at Inman Pond (north side of pond).	$150
Modify north end Jabe Pond to prevent boat trailers from entering pond.	$2,000
Introduce largemouth bass into Spectacle Ponds (CH 393&393).	
Introduce brown trout into Upper and Lower Spectacle Pond (CH 409 & 410).	
Improve 2 boat-in campsites along east shore of Lake George in Intensive Use Area to make the sites accessible.	$8,000
Install permanent water diversion structure on Hubbell (a.k.a. Big Hollow) Reservoir.	$15,000
Post Invasive Species prevention signs at all boat launch sites.	$500
Total	**$357,750**

Year 2	**Estimated Cost**
Begin treatment of Japanese knotweed infestation at southern canoe launch site in the HRSMA.	$500
Construct snowmobile trail re-route to Viele Pond Road in the HRSMA.	$3,000
Repair and rehabilitate trail from Dacy Clearing to Bumps Pond.	$5,000
Construct barriers on trails of Shelving Rock and Dacy Clearing areas to discourage ATV's and vehicle access.	$10,000
Install rock barriers at Northwest Bay boat launch site to allow car-top boats and prevent boat trailers from entering water at launch site.	$1,500
Place register and kiosk at end of Lily Pond Road.	$1,500
Install permanent water diversion structure on Gage Brook Reservoir.	$15,000
Dredge Shelving Rock Reservoir and install permanent water diversion structure.	$20,000
Reroute portions of the Prospect Mtn Trail.	$3,000
Construct and/or improve a campsite reserved only for people with disabilities on Jabe Pond. Construct site to ADAAG standards.	$3,000
Build 3 car parking lot adjacent to the Hutton Square Road, Town of Putnam	$5,000
Construct new trail system on Forest Preserve lands to Prospect Mtn from the Village of LG Recreational Park. Place registry at boundary of Wild Forest pending Prospect Mt. UMP approval.	$2,000
Construct ADA accessible parking area and campsite at Palmer Pond along with accessible trail to campsite and access to water.	$22,000
Reroute snowmobile trail sections that exist on the water surface of Millman and Lapland ponds.	$2,000
Repave Northwest Bay fishing access site parking lot.	$15,000
Install erosion control devices at the HRSMA canoe launch adjacent to the townline parking area and improve accessibility.	$1,000
Dredge power loading mound at Horicon Boat Launch site.	$10,000
Total	**$119,500**

Year 3	**Estimated Cost**
Designate foot trails in the vicinity of Eddy Mountain and Thomas Mountain in the HRSMA.	$3,000
Construct campsite associated with new foot trail in the HRSMA.	$500
Replace gate across old road south of Stones Mountain with boulders.	$100
Relocate HRSMA campsite #15.	$500
Layout and construct connector trail and bridge from existing trail system on the newly acquired Northwest Bay Tract to the Clay Meadows Trailhead.	$5,000
Instal Kiosks at Clay Meadows and Deer Leap Trailheads.	$3,000
Construct lean-to and privy at Pole Hill Pond.	$10,000
Reclamation of Inman Pond.	$5,000
Total	**$27,100**

Year 4	**Estimated Cost**
Remove buildings from the “Flat Rock” parcel, recently classified, on the east side of Lake George near Anthony’s Nose .	$15,000
Install ‘No Motorized Vehicle Use’ signs at the Deer Leap, Clay Meadow, Pike Brook Road, Comstock Rd. and Jabe Pond trailheads.	$100
Total	**$15,100**

Year 5	**Estimated Cost**
Install erosion control devices at the HRSMA canoe launch adjacent to the townline parking area.	$1,000
Design and construct an mountain bike trail system on Prospect Mt.	$8,000
Construct 3 car parking lot adjacent to Route 3 near Putnam Station.	$5,000
Total	**$14,000**

ADDITIONAL ACTIVITIES AND PROJECTS (To be completed as soon as possible)	**Estimated Cost**
Document campsite areas where serious ecological and/or visual impacts due to fire use are occurring as part of the campsite inventory and monitoring program (LAC indicators).	1 staff-day
Non-designated, habitually occupied tent sites in popular areas will be monitored annually according to the LAC indicators designed for the unit. Campsite inventories will be conducted throughout the Wild Forest every 5 years.	1 staff-day
Develop LAC indicators and standards for condition of vegetation in camping areas	1 staff-day
Develop LAC indicators and standards for the condition of vegetation in areas frequented by visitors (e.g., trails, camping areas, etc.).	1 staff-day
Monitor campsites within the LGWF, with particular attention given to Jabe Pond, Shelving Rock and the HRSMA. Monitoring data should then be used to determine where the impact of use is approaching the limits of acceptable change, or 'LAC'. Data can then be used to plan campsite expansion, reduction, and special use regulations to ensure use of these site remains compliant with Wild Forest guidelines as specified in the APSLMP.	2 staff-days
Remove and clean up all illegal fire rings and fire places as they are found.	2 staff-days
Install trailhead kiosks with area and regulatory information at all trailheads.	$1,500/kiosk
Develop maps, brochures, and other printed materials to provide necessary travel and safety information, information on natural and cultural values, and Leave-No-Trace skills and ethics.	$2,000
Total	**$20,000**
	10 staff-days

SECTION VI: STATE ENVIRONMENTAL QUALITY REVIEW ACT

The State Environmental Quality Review Act (SEQRA) requires the consideration of environmental factors early in the planning stages of any proposed action(s) that are undertaken, funded or approved by a local, regional or state agency. A Long Environmental Assessment Form (LEAF) is used to identify and analyze relevant areas of environmental concern based upon the management actions in the draft unit management plan. For this plan, SEQRA review has been initiated with the preparation of the LEAF. Upon review of the information contained in the LEAF, there will not be any large or important impacts associated with any of the management actions, therefore there will not be a significant impact on the environment and a Negative Declaration will be prepared. Any changes that are made in this plan, based upon public comments, will be considered in the LEAF and determination of significance when the final plan is written.

SECTION VII: SPECIAL MANAGEMENT AREA PLANS

Shelving Rock Special Management Area

Introduction

The Shelving Rock Special Management Area (SRSMA) includes approximately 572 acres in the town of Fort Ann, Washington County. For the purposes of this UMP, it has been classified as a Special Management Area or sub-unit within the LGWF. This special management area receives heavy recreational use during the spring, summer and fall months of the year. Camping and day-use activities are prevalent therefore resulting in detrimental effects to the natural resources and wild character of the area. A Special Management Area Plan can incorporate management proposals specific to an area, making it more efficient to intensively manage a high recreational use area.

Area Description

The SRSMA, will be approximately 572 acres in size. The areas of Shelving Rock that will be designated within the Special Management Area will include 500 feet from both sides of the Shelving Rock and Dacy Clearing Roads. Also, the Shelving Rock Day Use Area (SRDUA) will be included in the Special Management Area which is now delineated as follows: Where Shelving Rock brook flows downstream from Shelving Rock Road to Shelving Rock Bay, Lake George; northeast along the shoreline to the Forest Preserve Boundary, east to the Shelving Rock Road and then back along Shelving Rock Road to the junction of the Shelving Rock brook, and includes the area known as the “Pines”.

The main public access to the SRSMA is from the south off route 149. From route 149 travel north on the Buttermilk Falls Road to the Sly Pond Road. Continue north to the Shelving Rock Road and the Dacy Clearing Roads. Near the end of the Shelving Rock Road, the SRDUA is adjacent to Lake George. The SRDUA can also be accessed from Lake George by boat. The Dacy Clearing Road, a DEC motor vehicle road, dead ends at Dacy Clearing.

History and Past Management

Historically, the Shelving Rock area has been a popular destination for recreational users, due to the proximity to the Lake George shoreline. In later years around 1990, significant degradation of natural resources was occurring such as loss of undergrowth and vegetation and erosion of soils. Problems such as after hour parties and underage drinking, particularly in “The Pines” area, were also detracting from the overall wild forest experience. As a result, adjoining landowners and/or other visitors in these areas often notified law enforcement of violations and disturbances in the area.

In 2004, DEC closed the "Pines" area to camping in response to the usage of this area by large groups. Overuse and mis-use of the area had resulted in significant degradation of natural resources and Wild Forest character, including loss of undergrowth vegetation, compaction and erosion of soils, and overuse of sanitary facilities. This use had also impacted social conditions and led to numerous complaints from other users in the area. Following closure of the campsites in this area, DEC designated /constructed 12 campsites in other locations off Shelving Rock and Dacy Clearing Roads. These sites, which were constructed in compliance with the primitive tentsite separation distance guidelines of the Adirondack Park State Land Master Plan, provide a secluded setting allowing campers to truly experience on the Adirondack Forest Preserve what they have come to expect. During 2005, the first full year that the "Pines" area was closed to camping and the campsites relocated, DEC Forest Rangers reported significant improvements in social and natural resource conditions. This management strategy should be codified through the creation of regulations to restrict camping in this area to designated sites only.

Inventory of Facilities

Primitive Tentsites(None located in the SRDUA)	**Location**
Site #1 through Site #4 Dacy Clearing Road	Within 500 feet of road
Site #5, 6 and 7 at Dacy Clearing	Site #5 and #6 are drive-in sites
Site #8 through Site #12 Shelving Rock Road	Within 500 feet of road

Privies	**Number**
Sites #1 through Sites # 12	12
Shelving Rock Day Use Area	3

DEC Motor Vehicle Roads	**Length (miles)**
Dacy Clearing Road	1.5 miles

Management Proposals

In the SRSMA, camping is currently allowed only at the designated campsites located on the Shelving Rock and Dacy Clearing roads. The day-use area (SRDUA) remains the most heavily used portion of the SRSMA and degradation of the natural resources and the wild forest character has resulted from a high level of recreational use, which is partly why this area was

designated for day-use only. Most public use occurs in the form of picnicking, swimming, boating\ tubing and other day-use along the shores of Lake George. Good compliance with these management policies has occurred to-date through signage and education by Forest Rangers. However, codification of these strategies through the adoption of area-specific regulations would improve the ability of Forest Rangers to restrict the effects of camping to suitable areas and enable other areas to recover.

Thanks to an improvement in conditions as a result of this management change, the SRSMA may be able to support a small number of additional campsites along Shelving Rock Road. New campsites would help to existing satisfy demand during the summer and could be located at appropriate sites at least 1/4-mile from other designated campsites.

Camping at Dacy Clearing has also been quite popular over the years. Due to the presence of many miles of designated horse trails in this area of the LGWF, equestrians also use this area for unloading as well as camping. Historically, there have been many campsites bunched together at the clearing. In 2004, DEC closed a number of these sites (in conjunction with the campsite relocation work being done along nearby Shelving Rock Road) and relocated them to other locations along Dacy Clearing Road. Three designated sites currently remain at Dacy Clearing, but are within 1/4-mile of one another. This small grouping of campsites should remain, partly because of the traditional equestrian use at this location but also because of the capacity of Dacy Clearing to withstand this use. As a well-used and long-existing clearing, the area is hardened and well-suited to handling more than one camping party. Furthermore, this special situation accommodates equestrian users that require campsites close to their horses and trailers and in proximity to a water source. Over the years, fewer problems of non-compliance have been associated with Dacy Clearing than other areas in Shelving Rock. Dacy Clearing is also relatively flat offering camping opportunities for people with disabilities. Yearly attention to possible degradation of vegetation in the vicinity of campsites at Dacy Clearing will be required.

Originally, the Consent Decree required that an equestrian mounting platform be installed at Millman Pond. The Upper Hogtown parking lot was substituted for Millman Pond. The mounting platform has been completed at the Upper Hogtown parking lot and an additional platform was completed at Dacy Clearing above Consent Decree requirements. Additional mounting platforms required under the Consent Decree to be completed include Bumps Pond and Fishbrook Pond.

Objectives:

- Restore and protect the natural wild forest setting
- Encourage those types of outdoor recreation that will afford public enjoyment without impairing the wild forest atmosphere
- Reduce impacts to the area by encouraging recreational use levels consistent with

the protection of the unit's natural resources and character

- Provide ADA-compliant facilities to improve access for people with disabilities.

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Management Actions:

Protection of Lands within Special Management Areas:

- Develop regulations codifying the current practice of limiting camping in the SRSMA to designated site only.
- Clearly mark the limits of this Special Management Area with regulatory information signs and plastic markers.
- Construct two new primitive tentsites along Shelving Rock Road that are at least 1/4-mile apart from any other designated tentsite.
- Designate the three primitive tentsites at Dacy Clearing as a so-called small grouping of primitive tentsites.
- Install an ADA-compliant pit privy at Dacy Clearing.

Hudson River Special Management Area

Introduction

The Hudson River Special Management Area (HRSMA), also known as the Hudson River Recreation Area, the Lower Gorge Recreation Area, or sometimes simply Buttermilk, includes Lake George Wild Forest lands in the Towns of Warrensburg and Lake Luzerne in Warren County. For the purposes of this UMP it is has been classified as a Special Management Area or sub-unit within the larger Lake George Wild Forest. This has been done for several reasons, not least of which include the intense use the area receives during the warmer months, often in the forms of car camping and various types of day-use, and the resulting adverse effects these uses have had on the natural resources and wild character of the area. A Special Management Area Plan has the added result of bundling together all management proposals specific to the HRSMA, making it easier to locate and review those proposals within the much larger LGWF UMP. The APSLMP, on page 50, allows for the development of such Special Area Management Plans within a Unit Management Plan.

Area Description

The HRSMA is roughly 5,500 acres in size and is generally bounded by the Hudson River on the west, State Route 9N to the south, Old Stage/Viele Pond Road to the east, and the Schroon River to the north. A central feature and major attraction of the area are the dozen or so miles of frontage on the left bank of the Hudson River. East of the river corridor, much of the HRSMA is hilly and quite steep. Many rocky outcrops, and hence potentially scenic vistas, exist on the hillsides in the area, though there are few foot trails by which to access them. There are however, numerous old roads and skid trails in the area – some designated, most not – that are used by the public for hiking, snowmobiling, horseback riding, nordic skiing, hunting and other activities. Elevations in the area range from around 580 ft. at the Hudson River to 1,941 ft. at the top of Thomas Mountain.

The main public access to the HRSMA is from the south via River Road in the Town of Lake Luzerne. River Road provides public access to the many narrow pieces of state lands along the river between the hamlet of Lake Luzerne and Thomas Road. A town road, River Road continues north to the town line and appears to be regularly maintained by the Town of Lake Luzerne. From the town line, the road continues north under a different name - Buttermilk Road, or sometimes Buttermilk Falls Road - and is claimed by the Town of Warrensburg as a town road, though there is often little evidence of maintenance north of the town line.[1]

[1]In this Special Area Management Plan, the name River Road will be used to refer to that portion of the road in the Town of Lake Luzerne and the name Buttermilk Road will be used to refer to that portion of the road in the Town of Warrensburg, regardless of jurisdiction.

Although River Road is by far the most common public access point, others exist and include:

- Darlings Ford - across the Hudson and immediately north of the confluence of Buttermilk Brook and the Hudson - mostly used by equestrians;
- the old Riverside Road (Buttermilk Rd) from the north in the Town of Warrensburg - the condition of the old road limits the type and amount of recreationists who use it to access lands of the HRSMA;
- the Gay Pond snowmobile trail - via arrangement between the South Warren Snowmobile Club and private landowners to the east, this trail connects Viele Pond Rd to the DEC's Gay Pond snowmobile trail across private lands currently owned by Finch, Pruyn & Company, Inc., though they have indicated that they may terminate this agreement in the near future;
- various points along the Hudson River - the river is popular among recreationists and can be easily accessed at various locations upstream, making the HRSMA a common "take out" location for many canoeists, kayakers, rafters, and tubers; also, a few flatwater sections of the river regularly freeze over in mid-winter, facilitating snowmobile access to the HRSMA from snowmobile trails on the west side of the river.

History & Past Management

A brief history of the area includes:

1800s - the area is used to stage log drives down the Hudson River to Glens Falls; in some years, over 500,000 logs passed through the area

early 1900s - NYS acquires scattered upland parcels in the area via tax sale, for addition to the Forest Preserve

1911 - NYS Conservation Commission proposes the construction of a hydro-electric dam in Lake Luzerne; the project would have flooded the land to the 610' contour line

1930s - land is purchased by a number of power companies; in the 1950s the companies combine to form Niagara Mohawk

1960s - NYS acquires additional upland parcels in the HRSMA from the Luzerne Timber Company

1980s - Niagara Mohawk abandons plans to construct the dam and flood the property; Niagara Mohawk begins lease of the property and it becomes known as the Hudson River Recreation Area; a report produced in 1992 by River Stewards of the area states, "*The*

problems, complaints from local residents, and crime associated with the area's abuse led NIMO to revoke the lease from the rod and gun club and get rid of the property."

1992 - DEC enters into a Memorandum of Understanding (MOU) with Warren County Parks and Recreation and the Adirondack Mountain Club to cooperate in the management of the area; four River Stewards are assigned to the area from Memorial Day through Labor Day, who record over 4,000 registered visitors to the area for this period. During this summer, no camping is allowed on the Niagara Mohawk parcels in the main part of the HRRA. In December, DEC takes title to these parcels.

1993 - several tent sites are designated and the River Stewards report increase in littering, vandalism, and other non-compliant behavior[2] as a direct result; they recommend eliminating camping north of the gatehouse[3]; over 10,000 registered users visit the area

1994 - over 9,000 registered visitors - Campsites remain (4 on Buttermilk Road and 4 on Gay Pond Road), but River Stewards theorize that a camping-by-permit-only rule has helped to reduce problems. However, River Stewards recommend codification of the camping at designated sites only policy due to compliance problems. Stewards also note the use of the area as a party spot at night and the damage caused to vegetation by vehicles on and around campsites.

1995 - over 12,000 registered visitors - Campsites are managed for tent camping only. Stewards echo problems of vandalism and dumping as in previous years. Also note use of the area for "disruptive parties" at night, leading to increased litter, "illegal fires" and "camping in restricted areas".

1996 - over 6,000 registered visitors - problems of non-compliant behavior continue; gatehouse destroyed by fire.

1997 - Warren County moves its environmental education program to Up Yonda Farm; river steward program ends, as does means of tracking public use; cessation of the river steward program results in "spotty" official presence and abuse of the area worsens.

2001 - As a result of a civil action under the Americans with Disabilities Act (ADA), a consent

[2]Non-compliant behaviors include burning trash in campfire rings, cutting live trees, making excessive noise, illegal motor vehicle use, vandalism, and other activities that endanger the public, degrade the physical character of the area and seriously impair the Wild Forest experience of other users.

[3]The County maintained a gatehouse near the Lake Luzerne-Warrensburg town line during the operation of the river steward program.

decree is generated, obligating the defendants to complete certain activities within the HRSMA, including providing accessible facilities and opening or supporting the opening of certain roads to people with disabilities.

2002-2005 - DEC installs ADA compliant picnic tables, fire places, and pit privies on most campsites in the area; much-needed maintenance of Gay Pond Rd is performed. Non-compliant behaviors continue.

2006 - DEC replaces/repairs numerous picnic tables and pit privies in the area; much-needed maintenance is performed to Buttermilk Road and to the Pike's Beach access road; DEC opens the new Bear Slide Road on property owned by the Open Space Institute (OSI).

Inventory of Facilities

Designated Foot Trails	Length (miles)
Bear Slides trail	1.1

DEC Motor Vehicle Roads	Length (miles)
Buttermilk Rd[4]	2.1
Gay Pond Road[5]	3.8
Pike's Beach access road	0.3
Scofield Flats access road	0.1
Gay Pond north spur	0.3
Total	**6.6**

Snowmobile Trails	Length (miles)
Buttermilk Road	2.1
Gay Pond Road	3.8
Total	5.9

Buttermilk Road - Jurisdiction over this road is split between the Town of Warrensburg and DEC. The Town of Warrensburg claims jurisdiction over the road from the town line north 7,200 ft. The rest of the road to the north (2.1 miles) is under DEC's jurisdiction. The road averages 16 to 22 feet in width and is surfaced with a combination of native material and crushed stone. Maintenance to the DEC portion of the road was performed in September, 2006. To improve public access and safety and to reduce the amount of required maintenance, the road should be resurfaced with crushed stone for its entire length and gated during mud season.

[4]Also designated as a snowmobile trail.

[5]Also designated as a snowmobile trail.

Gay Pond Road - This road averages 14-20 feet in width and is surfaced with a combination of native material and/or crushed stone. Most of the road is in fair condition, but is in need of ordinary maintenance. Maintenance work was performed in 2003 to the full length of the road and again in 2006 to the lower 1.25 miles of the road. Rock-lined cross-ditches on this road require frequent maintenance and should be replaced with culverts. Those portions surfaced with native material should be resurfaced with crushed stone.

Gay Pond spur road - This road averages 12 - 16 ft in width and is surfaced with a combination of native material and crushed stone. The road is in fair condition.

Scofield Flats access road - The road to Scofield Flats averages 10 to 14 feet in width and is surfaced with the native soil of the area, which is quite sandy. The road is also in fair condition and in need of ordinary maintenance and resurfacing.

Pike's Beach access road - The road to Pike's Beach averages 12 to 18 feet in width, and is also surfaced with the native sandy soil of the area. Road maintenance was performed in August 2006, but without resurfacing, ruts and pot holes will return in areas of poor drainage. In the past, poor condition of the roadway has led to braiding and widening of the road in many places.

Management proposals for these roads are found under the "Roads" heading towards the end of this sub-plan.

Primitive Campsites

Name and Location	Directly Accessed via Motor Vehicle?
Sites #1* and #2* - Scofield Flats	Y
Sites #3* and #4* - Pike's Beach	Y
Site #5* - River Rd, just south of Town Line parking area	Y
Site #6* - Buttermilk Road, just south of Buttermilk Brook	N
Site # 7* - Buttermilk Road, near the "Pines" area	N
Site #8* - Buttermilk Road, west of Morton Mtn.	N
Site #9* - Buttermilk Road, north of Morton Mtn.	N
Site #10* - Buttermilk Road	N
Site #11* - intersection of Buttermilk Rd and Gay Pond Road	N

Site #13*† - Gay Pond Road	N
Site #14* - Gay Pond Road	N
Site #15 - Gay Pond Road	N
Site #16* - Gay Pond south	Y
Site #17 -Gay Pond northeast	N
Non-numbered site on OSI property*	Y (CP-3 permittees only)
Total # of sites - 17	

* Denotes sites that are being developed as universally-accessible sites.

† Site #12 was previously closed in order to conform with APSLMP guidelines regarding campsite separation distances.

Accessible Privies

Location	**number**
Scofield Flats	1
Pike's Beach	1
Town Line Parking Area	1
campsites #5 - 11	7
campsite #13 - #16	4
Total	**14**

Picnic tables (accessible)

Location	**Number**
Scofield Flats	2
Pike's Beach	2
campsites #5- #11	6
campsites #13 - #15	3
campsites #16 & #17 (Gay Pond)	2
the "Pines"	2

Darling's Ford	1
campsite on OSI property	1
Total	**19**

Fire Places

Location	**Number**
Scofield Flats campsites	2
Pike's Beach campsites	2
campsites #5 - #11	7
campsites #13 - #16	4
Total	**15**

DEC Parking lots[6]

Location	**Capacity**
Bear Slides/Darlings Ford	6
Buttermilk Rd & Gay Pond Rd	4
Pike's Beach	4
Scofield Flats	4
the "Pines"	4
Total	**22**

Gates - 3 total

Location
Gay Pond Road
Bear Slide Road (on OSI property)
old road just south of Stones Mtn.

[6]does not include Lake Luzerne turn-around at the end of River Rd at town line

Bridges - 2

Location	Type
Gay Pond Road	vehicle
Buttermilk Road	vehicle

Culverts

Location	Number
Gay Pond Road	8
Buttermilk Road	5
old riverside road to Warrensburg	4
Total	**17**

Management Proposals

Present Conditions:

The HRSMA is heavily used during the summer months, often resulting in degradation of the natural resources and natural character of the area. The level of use is so intense in this area that it often exceeds the ability of the existing resources to withstand such use. Most public use occurs in the form of car-camping, swimming, picnicking, boating/tubing and other day-use along the river corridor. But the area is also used for horseback riding, hiking, hunting, snowmobiling, and other forms of recreation. Precise user data for the area is unknown, but staff observation coupled with public reports confirm that it is quite high.

Unfortunately, illegal activities are not uncommon in the area. Department Office of Public Protection staff (Forest Rangers and ECOs), NY State Police, and local police have documented illegal activities such as ATV use, large “keg” parties, underage drinking, drug use, driving while intoxicated, theft, and assault. These actions are contrary to Wild Forest use regulations concerning party size, campsite location, sanitation, and motor vehicle use and create a hazard to other legitimate users of the area. Collectively, these actions may be referred to as non-compliant behaviors as they run counter to APSLMP guidelines and what is expected of visitors to Wild Forest areas. These types of non-compliant behaviors endanger the public, degrade the physical character of the area, and seriously impair the Wild Forest experience sought by many visitors to the HRSMA.

These overuse problems are related to several characteristics of the area. The first is the existence of a good access road, which connects with paved public highways. Access is therefore easy for both day and overnight users of the area. The HRSMA lacks fees for day use and

camping and camping permits are not required unless one intends to stay for more than three days or the group exceeds ten persons. Another notable characteristic and a very strong attraction for this area is the proximity to this popular and scenic stretch of the Hudson River. This feature is what makes the area attractive to all users of the Wild Forest. However, because the area is on public land with few regulations limiting use, and as it lies outside the normal patrol limits of local law enforcement agencies, a small subset of users enter the area to engage in activities which range from simple noncompliance with regulations to those which are illegal under New York State law. It is the degree and type of impact brought to the area by this subset of users that makes the HRSMA an undesirable destination for law-abiding users.

Currently, the Department lacks sufficient personnel to adequately address non-compliant and illegal activities occurring at the HRSMA. Similarly, the NY State Police lack the resources to patrol the area, and local police confine their patrols to the more populated portions of their municipalities. In short, the HRSMA is well-removed from the normal patrol ranges of local law enforcement agencies. Lacking the presence of law enforcement, the area is attractive to those seeking to engage in the non-compliant behaviors described above.

Following the pullout of Warren County Parks and Recreation, management activities in the HRSMA have been historically reactive in nature. Office of Public Protection staff are notified when violations and disturbances are noticed by adjoining landowners and/or by visitors to the area. Similarly, the maintenance of the sites is largely in response to the damage caused by these violations. The repair and replacement of damaged facilities (e.g., outhouses, signs, etc.) is performed when damage is observed and reported by Rangers and/or other visitors. The cost to repair damaged campsites, replace lost facilities (picnic tables, fire rings, etc.) and remove trash from these sites creates a disproportionate burden on the limited Department resources.

In the past few years, the Department has had special details in the area, using forest rangers and ECOs to inspect campsites and other popular areas in which users congregate to ensure compliance with use and safety regulations. When Office of Public Protection staff are available for these details it has curbed some of the overuse problems. The recent passage of 6 NYCRR §190.8(q), which prohibits alcohol possession on state lands by persons underage, has also helped to curb some of these problems. However, fire suppression, search and rescue efforts, and other law enforcement responsibilities limit the use of ‘special details’ and other proactive management strategies in these areas.

Due to these characteristics of the HRSMA, the following specific problems occur with alarming regularity:

Inappropriate and Illegal Motor Vehicle Use

Roads and trails currently open to public motorized vehicle use include Buttermilk Road, Gay Pond Road (including a short spur on the west side of the pond), and the less

developed roadways that provide access to Pikes Beach and Scofield Flats. However, illegal motorized use via ATV, car, and truck occurs in many other places in the area.

For instance, despite the existence of a suitable roadway providing access to Scofield Flats, scofflaws often drive 4WD vehicles up and down the steep embankment adjacent to River Road. This illegal use destroys vegetation and has lead to severe gullying and erosion of the bank and adds sediment to the Hudson River. Additionally, use of the roadway to Pikes Beach at inappropriate times, namely during mud season, has lead to major ruts and ultimately, severe braiding of the roadway and destruction of vegetation. ATV trails similarly scar State lands west of Stones Mountain. The Department maintains log barriers along River Road to keep ATVs from entering the area below Stones Mountain, but these barriers are often vandalized and moved. ATV and other illegal motor vehicle use in this area has lead to extensive erosion, damage to vegetation, and dumping. The Department must spend scarce resources to replace barriers to illegal motor vehicle use and to clean up the refuse that accumulates at this site.

In an area known as “the Pines”, illegal motor vehicle intrusion has exacerbated the loss of understorey vegetation and killed overstorey vegetation throughout the area through direct physical damage to plants and trees and through soil compaction, which can ultimately kill plants by weakening and killing their root systems. Such unrestricted use can also endanger other users, particularly at night, if campers lie unprotected in tents in the area. Such illegal vehicle intrusion also facilitates the occurrence of large and destructive parties by opening up large, out-of-the-way areas, where people have hidden from Office of Public Protection personnel and engaged in destructive activities such as vandalism and underage drinking. This problem was recognized in the aforementioned 1992 river steward report, which recommended that a parking lot be established and “the Pines” area made off-limits to vehicles. This recommendation was apparently followed and vehicle use was curbed, but illegal vehicle use and attendant natural resource damage continues to occur in this and other areas.

In addition to the obvious effects on the natural resources of the area, illegal motorized use degrades the character of the area and negatively affects the law-abiding user’s enjoyment of the area. Furthermore, the APSLMP contains several guidelines to discourage such widespread vehicle use, including Basic Guideline #4:

> *Public use of motor vehicles will not be encouraged and there will not be any material increase in the mileage of roads... open to motorized use by the public in wild forest areas that conformed to the master plan at the time of its original adoption in 1972.*

Other Serious Illegal Activities

These include underage drinking, driving while intoxicated, theft, and even assault. Frankly, the area has been known as a place to party with small chance of intervention by law enforcement. The reasons for the occurrence of these activities in the HRSMA relate partly to past abuses and to the characteristics of the area as have been stated above, including its relative removal from the patrol ranges of local law enforcement agencies and the ease by which it can be accessed via motorized means by those seeking to engage in non-compliant behaviors. Department enforcement personnel cannot be omnipresent to monitor the area. The occurrence of these illegal activities degrades natural resources as well as the Wild Forest character of the area, disturbs neighboring landowners, and most importantly, leads to an unsafe environment for other users of the HRSMA. Any management strategy for the HRSMA must address the attractiveness of the area to people looking to engage in illegal activities.

Campsite Condition

For as long as the State has owned the former Niagara Mohawk lands, camping within the HRSMA has been limited to designated sites only. Pressure on these sites is high, and is heaviest on those within a short distance of the area's motor vehicle roads. (Although exact figures are unknown, the occurrence of backcountry camping in the HRSMA is believed to be infrequent, probably due in part to the relative proximity of other larger and more isolated tracts of state land). On many summer weekends, all existing campsites are occupied (often before the onset of the weekend), and users begin to establish campsites at unsuitable locations or at sites that have been previously closed. The effects of such pressure and resulting overuse have lead to serious impacts, including: the trampling and subsequent loss of understorey vegetation through use by oversized parties and/or vehicles; damage to larger trees by vehicles; and the cutting of live trees for campwood. All of these lead to increases in the size of existing campsites and contribute to the overall degradation of the natural character of the area. Motor vehicle use on sites has also contributed to soil compaction, erosion, and ultimately soil loss, littering and illegal dumping, as well as vandalism to site facilities. Not surprisingly, the APSLMP addresses the problem of overuse in wild forest areas:

> *Although the nature of most wild forest areas indicates that potential recreational overuse will not be as serious as in wilderness, primitive and canoe areas, care must nonetheless be taken to avoid overuse, and the basic wilderness guidelines in this respect apply also to wild forest lands. The relatively greater intensity of use allowed by the wild forest guidelines should not be interpreted as permitting or encouraging unlimited or unrestrained use of wild forest areas.*

Again, many of the effects of overuse have been compounded by inappropriate use of motor vehicles in the HRSMA. Attempts have been made in recent years to limit motor vehicle use to suitable areas, but many of these efforts have been undermined through repeated vandalism.

Campsite Availability

As with other popular Wild Forest areas within the park, problems of long-term occupation of campsites occasionally occur in the HRSMA during the summer months. Due to its scenic beauty, lack of user fees, and limited number of campsites, there are often more people interested in camping in the area than the area can reasonably accommodate. DEC is unable to establish more sites due to potential sanitation issues, potential effects on natural resources and Wild Forest character, and APSLMP guidelines regarding overuse and minimum campsite separation distances in Wild Forest areas

DEC regulations (6 NYCRR) prohibit camping in one location for a period in excess of 14 consecutive nights, except during the big game hunting season. Further, no temporary camping permit may be renewed, or a new permit issued, to the same person for the same location in the same calendar year. The benefits of regulations regarding maximum length of stay are many and include campsite availability to a large number of different users, prohibiting monopolization of a campsite by one party for excessive periods of time or for much of the summer. However, in the HRSMA, campsite availability has been impacted by users who circumvent these regulations. This practice is particularly vexing in the HRSMA, because of the popularity of the area for summer camping.

Vandalism

Deterring vandalism and repairing the resulting damage to privies, signage, fire rings, roads, gates, and other facilities is a constant battle in the HRSMA. Recent Department efforts to increase campsite accessibility for persons with disabilities have been severely hampered by vandalism, including the destruction of several universally-accessible picnic tables and pit privies. Vandals have also recently sprayed graffiti throughout the HRSMA, in the form of line drawings of a person in a wheelchair with a diagonal line through it. This graffiti is particularly harmful because it gives visitors the impression that people with disabilities are not welcome.

Much of the vandalism in the HRSMA is related to the other problems listed above and exacerbated by the inappropriate use of motor vehicles in certain areas.

Objectives:

- to restore and protect the natural wild forest setting
- to encourage those types of outdoor recreation that will afford public enjoyment without impairing the wild forest atmosphere
- to improve access to Department programs (camping, hunting, fishing, etc.) for people with disabilities
- to reduce impacts to the area by encouraging recreational use levels consistent with the protection of the unit's natural resources and character
- to reduce the attractiveness of the area to those seeking to engage in destructive or illegal activities
- to provide users with information on the unit and its facilities, and the appropriate use of the area
- to identify and develop methods to monitor public use accurately

Alternative Management Actions – Area Wide

The Department has tried for several years to control the management problems in the HRSMA – at times successfully – but abuses continue. Management activities have included managing the area for camping at designated sites only, placing barriers to deter illegal and inappropriate motorized use, and special law enforcement details, but have often depended on the regular and frequent presence of staff (usually Forest Rangers) to insure compliance. A further problem has been that without a specific regulation to prohibit camping at un-designated sites in the HRSMA, Office of Public Protection staff have had to rely on 6 NYCRR §190.8(p), "No person shall fail to comply with the instructions contained on a sign of the Department of Environmental Conservation" – an offense that doesn't always "stick" in local courts, compared with the more commonly known, but less adequate – in the HRSMA, anyway – §190.3(b), "Camping is prohibited within 150 feet of any road, trail, spring, stream, pond or other body of water except at camping areas designated by the department." Developing a limited number of new rules and regulations specific to the HRSMA could make existing management strategies more effective. Further complicating management of the HRSMA, have been the use patterns established during Niagara Mohawk ownership. Some have seen them as the only management option simply because that is the way things used to be, despite recognition of the problems outlined above.

To address the myriad problems in the HRSMA, the Department has developed a number of potential management options, which are described below. Most will require new facilities and/or regulations.

A. Status Quo or No Action

Essentially, the Department makes no change in management of the area. Existing problems, outlined above, continue and likely increase, to the detriment of the resource and the public's enjoyment thereof. Additionally, this alternative demands large amounts of staff time, between clean-up of trash, repair of vandalized facilities, and frequent "special details" by Forest Rangers rather than regular patrol by just the local Forest Ranger. This is clearly an inappropriate choice given the problems of the area.

B. Codify the current policy of Camping-at-Designated-Sites-Only

The current management strategy in the HRSMA centers largely on limiting camping to designated sites and limiting motor vehicle use to existing roads in an attempt to control the location of intensive use and the number of users in the area, and hence impact, while seeking to insure that the area meets the APSLMP definition and guidelines for Wild Forest. Even though this approach has been in effect since the Department established campsites on the former NiMo lands, the lack of a specific regulation to back the camping-at-designated-sites-only approach, limits the overall effectiveness of this management tool. Furthermore, intermittent DEC staff presence over the years due to frequent staff changes in the area has contributed to poor public knowledge of the rule and has exacerbated non-compliance.

This alternative requires the passage of a regulation that would describes the bounds of the HRSMA and prohibit camping in that area, except at designated sites or by permit. Given that the core problems associated with camping occur almost exclusively within a short distance of the river and/or motor vehicle roads, the description should be written to include all wild forest lands between the Hudson River and River/Buttermilk Road from the hamlet of Lake Luzerne north to the Schroon River. It would additionally include all wild forest lands to the east of and within 1,000 ft of River/Buttermilk Road, as well as all wild forest lands within 1,000 ft of Gay Pond Road.

Benefits: The area is already being managed for camping at designated sites only, and in fact, it has been managed this way since the state acquired the NiMo lands. However, it can sometimes be difficult to enforce without the specific regulation. Enacting this regulation would assist in restoring the natural character of the area by strengthening an existing tool that helps to restrict the effects of camping to suitable areas, and enables other areas to recover. This regulation does not directly address the effects of illegal motor vehicle use, vandalism or campsite availability. Nor is it, in and of itself, particularly relevant in preventing serious illegal activities such as theft or assault. However, successful enforcement of this policy will have some effect on these activities. Additional proposals will be necessary to address these issues and will be discussed below.

Drawbacks: The only drawback of this new regulation is the diversion of staff time required to enact it. Why not just use the existing regulation 6NYCRR §190.4(b) which states, "Temporary camping is restricted in certain posted areas and no person may camp on such areas without a permit"? In short, this regulation (6NYCRR §190.4(b)) requires extensive signage that, in an area like the HRSMA, is often vandalized. This regulation also requires the Department to write permits for every camping party, something the Department may not have the manpower to provide at all times.

C. Designate a portion of the area as day-use only

The existence of the long-standing camping-at-designated-sites-only policy means that all areas outside of the campsites are effectively day-use only already. However, in this alternative, a specific regulation would be enacted and would be written to apply to all wild forest lands in the HRSMA between the river and the road. The regulation would also be written to include all HRSMA lands south of the Thomas Road, except where otherwise noted by Department signage. This exception would allow for the continued existence of campsites at Pike's Beach and Scofield flats and would provide the Department with the ability to designate additional campsites in future UMP Amendments, if it was determined that additional sites were appropriate.

Benefits: Such a designation would be especially helpful in the popular and much-abused "Pines" area. There are already no campsites designated in this area particularly damaged by past motor vehicle use and large parties. And the area is already very popular with day-users, because of proximity to the river and its overall appealing natural character. A day-use designation helps to insure that it remains available to this suitable use and is not monopolized by tentsites. Furthermore, the area is scarred by evidence of past camping, such as hacking of trees, lantern scars on trunks, "TP flowers", etc– all things less likely to occur in an area of day-use.

The area also has a history of use by underage drinkers to hold large, out-of-the-way, "keg" parties. Although the passage of a new regulation to enforce against underage drinking has helped to discourage such parties and reduce their number, they occasionally still occur in the "Pines". A specific regulation prohibiting use between say, one half-hour after sunset to one half-hour before sunup reinforces the camping-at-designated-sites-only policy and provides another tool for Forest Rangers to curb non-compliant behavior and eliminate the illegal activities associated with these "keggers". By eliminating them, a regulation could help in improving the look and feel of the area for law-abiding visitors, and could help in restoring the natural character of the area as encouraged in the APSLMP.

Drawbacks: Most areas of the HRSMA between River/Buttermilk Road and the river have traditionally been managed in this manner anyway, so the drawbacks are few. In general, the promulgation of a new regulation should be employed only after other less restrictive strategies

have proven inadequate in controlling use. In this situation, management activities such as removing user-created fire rings and posting certain areas between the river and the road against camping, have proven insufficient. Regular enforcement has been the only effective means to control use.

The proposed day-use only regulation has the potential to improve the natural character of the area and address the occurrence of some illegal activities in the HRSMA, but by itself will not address the problems of campsite availability, illegal motor vehicle use, and campsite condition. Additional actions will be required to address these problems.

D. Close the area to camping entirely

In effect, this proposal returns the area to the way it was managed in 1992 – for day-uses only – with the additional closure of the 5 campsites along Gay Pond Road.

Benefits: Eliminates all the aforementioned problems associated with campsites and would likely go a long way towards reducing the occurrence of illegal activities in the area and improving the natural character of the area. The area remains open for day-use.

Drawbacks: It is extreme and impractical. It closes the entire area to all campers, because of the actions of a small set of users. Furthermore, the Department is bound by the 2001 ADA Consent Decree to maintain facilities for camping in certain areas of the HRSMA. Several other obvious problems exist with this alternative, not least of which include the large amount of staff time required to enforce such a closure. Certainly, the HRSMA can accommodate limited car- and backcountry camping.

This is an action that should be considered in updates to this UMP, if future conditions warrant. However, for this UMP, the proposal is considered too extreme.

E. Convert the area into a DEC Campground

Such a proposal would require a reclassification of all or a portion of the area to Intensive Use, an action that must be carried out by the Adirondack Park Agency. Although this UMP cannot be the vehicle for reclassification of the area, it is important that all plausible alternatives for the management of the HRSMA be considered in the Unit Management Planning process. The APSLMP contains the following guidelines regarding the development of new intensive use areas:

5. Priority should be given to the rehabilitation and modernization of existing intensive use areas and the complete development of partially developed existing intensive use areas before the construction of new facilities is considered.

6. Additions to the intensive use category should come either from new acquisitions or from the reclassification of appropriate wild forest areas, and only in exceptional circumstances from wilderness, primitive or canoe areas.

7. Any request for classification of a new acquisition or reclassification of existing lands from another land use category to an intensive use area will be accompanied by a draft unit management plan for the proposed intensive use area that will demonstrate how the applicable guidelines will be respected.

A campground developed at this location could probably be administered out of the nearby Fourth Lake Campground, but would still require such things as:

- connection to telephone service, which reportedly extends to the town line from the south;
- development of a source of potable water;
- construction of campsites;
- construction of 3 or 4 shower/restroom buildings;
- construction of a caretaker's cabin and garage/maintenance building
- connection to electric service (may or may not be required) – either across the river or approximately 2 miles on River Road;

Benefits: A constant Department presence and the ability to enforce existing campground regulations would severely reduce, if not eliminate the major problems currently experienced at the HRSMA, including poor campsite condition, illegal motor vehicle use, vandalism, and the occurrence of other illegal activities. It would return the HRSMA to the law-abiding public as a beautiful, clean, safe, and enjoyable public resource. As a DEC campground, the area would be classified as Intensive Use, a classification which has no campsite separation distance guidelines and allows for the construction of more and improved sanitation facilities. Both make it possible for the area to accommodate more visitors and hence more campsites could be provided, reducing the problem of limited campsite availability. User fees could also help the Department provide more picnic tables, improve road maintenance, and could improve the frequency of facilities maintenance in general, such as at water access points, picnic areas, and on trails. With

the constant staff presence and the application of standard campground regulations, at least during the summer, the area would be safer, cleaner, and – some would argue – it's scenic character restored.

Drawbacks: Such a proposal violates the non-degradation concept of wilderness management. The change in the conditions and natural character of the area might be profound and conversion to a campground could degrade the wild character of the area – although some would argue the wild character of the area is more degraded by current conditions.

Other negatives include:

- the capital investment required to develop a campground, which is unknown at this time. (As a comparison, the cost of developing the Scaroon Manor Campground is roughly $2½ million).
- the cost to the State of running a campground, which hopefully would be offset by the collection of user fees. However, many would see the enactment of a user fee, where there used to be none, as a major drawback. Furthermore, in order for the campground fees to pay for the costs of operation, it is estimated that at least 70 campsites would need to be developed.
- jurisdiction of Buttermilk Road. The Town of Warrensburg claims 7,200 ft of it as a Town road, though they have indicated that they would consider abandoning the Town road if a DEC campground were developed here.

A campground in this location could also be designed similarly to what is planned for Scaroon Manor and Camp Cayuga on Schroon Lake. The southern portion of the campground could be developed as a typical campground, but the northern portion of the area could be developed as a rustic campground, meaning the only facilities provided at the northern sites would be picnic tables, fire rings, tentsites (or maybe lean-tos), potable water, and composting toilets. There would be no electricity or shower buildings provided for these sites. This could have the benefit of keeping costs down and maintaining a less developed feel for at least some of the campground. This type of campground would probably also necessitate a re-classification to Intensive Use in order to be able to develop enough campsites in order to collect enough in user fees to cover campground operations.

Another, but related, option is the designation of the area by DEC as an Administrative Campground, which would not require reclassification to Intensive Use, but would allow the Department to enforce the more restrictive campground regulations in order to curb non-compliant behavior. However, this designation would not necessarily translate into additional staff. And APSLMP Wild Forest guidelines regarding campsite separation distances would still apply. In other words, this designation provides little benefit in terms of additional oversight or campsites. Furthermore, certain facilities allowed on Intensive Use areas but not Wild Forest areas such as toilet/shower buildings could not be provided; nor could the Department construct

maintenance buildings or a caretaker's residence to store equipment or house staff. Furthermore, the area would have to be administered from the existing DEC Fourth Lake Campground, which is an approximately 10-minute drive from the HRSMA. This may also require camper check-in to be done at Fourth Lake. The Department currently operates portions of the Saranac Islands and the Indian Lake Islands Campgrounds in this way, but both of these are water-access-only campgrounds and are administered from nearby Intensive Use areas.

F. Campsite Availability

Due to topography and APSLMP separation distance guidelines, only a limited number of campsites can be designated in the HRSMA. The Department has had to close campsites over the last several years, in order to comply with the separation distance guidelines.

The APSLMP further provides:

> *The primary wild forest management guideline will be to protect the natural wild forest setting and to provide those types of outdoor recreation that will afford public enjoyment without impairing the wild forest atmosphere.*

As stated earlier in this discussion, campsite availability, sometimes exacerbated by long-term occupation of campsites, can be a problem in the HRSMA during the summer. On nice summer weekends, demand often outstrips supply. Given the fact that the number of designated sites in the HRSMA is fairly limited, users who circumvent the 14-day maximum stay regulation, can have a significant impact on campsite availability. They can monopolize remaining campsites and prohibit other users from camping legally in the area.

Except during the big game hunting season, camping in one location for a period in excess of 14 consecutive nights is prohibited by regulation. Furthermore, renewing a camping permit or issuing a new permit to the same person for the same location in the same calendar year is also prohibited. However, effective enforcement of this regulation can be difficult when users conspire to circumvent it. And hence an empty designated campsite becomes harder to find, which can lead to people camping at inappropriate locations.

Possible methods to improve campsite availability include:

a. Develop more sites within the APSLMP constraints of campsite separation. There are few locations left along the most road-accessible portion of HRSMA, in which to develop more sites. In fact, many sites have been closed over the past several years in order to comply with the APSLMP's separation distance guideline. However, there is room to create 2 new sites on the former Sweet Lumber

property to the south of Buttermilk Brook. This property is currently owned by Open Space Institute and is slated to be acquired by New York State. This proposal will be discussed in more detail in the ADA section below.

b. Issue permits to individuals and include an equipment (tents or trailers) description. For tents, a basic description of the tent could include color, manufacturer, relative size, general shape. For trailers, a plate number would probably suffice or could be supplemented with make and model information. However, this method is problematic, because it requires the ranger to keep a running list of all the tents and/or trailers in use in the HRSMA during a particular season.

c. Develop a regulation to prohibit Tuesday night camping in the HRSMA. Such a regulation would prohibit people from monopolizing the few designated campsites, by ensuring that they were regularly emptied. Every Wednesday morning, all the sites would be open and available on a first-come first-served basis. This strategy seems a bit extreme, but it is appealing for relative ease of enforcement. It also improves Departmental control over the area. Such a regulation may be something to re-visit in future revisions to the UMP, but will not be proposed now.

d. Improve education and outreach to encourage people to be considerate of other users and limit their stays within the HRSMA during the summer so that others who have not had a chance may be able to find a designated site. This could be done through improved signage at campsites and via face-to-face interaction with Department staff. Assigning an Assistant Forest Ranger to the HRSMA could also improve education and reduce campsite monopolization.

e. Do not issue more than one camping permit per person/group in the HRSMA per calendar year. Under 6NYCRR §190.4, a camping permit is required to camp at one location for more than 3 nights. Camping permits can be issued for up to 14 days (longer during big game season). In order to improve campsite availability and avoid campsite monopolization, Forest Rangers would not issue a second camping permit to the same person/group. Also, Forest Rangers would list all members of a camping party on any camping permit.

The preferred strategies for now will be to implement a, d and e above. The No Tuesday Night Camping option could be adopted at a later date (i.e., through an amendment to this UMP) if the problem persists to an unacceptable degree. In addition, new signage at the traditional entrance to the HRSMA will reinforce the policy of camping at designated sites only and clarify that groups set up at un-designated sites will be required to leave, if no designated sites are available.

G. Camping by Permit Only

A regulation would be enacted that would require camping permits for overnight users of the HRSMA. Permits could be self-issued or issued through the Forest Rangers and/or Assistant Forest Rangers. The camping permit requirement could be limited to the peak season, perhaps Memorial Day through Columbus Day, and only for those sites within 1,000 ft of River Road, Buttermilk Road, or Gay Pond Road.

Benefits: Enables collection of more accurate overnight use data, including total number of campers for the season; number of back-country campers; number of car campers; occupancy rates by date, season, campsite, etc,; average number of campers per group; average number of nights per stay; etc. This information could be very valuable in relating use to observed impacts. It could also be an effective way to improve user education, for instance by including pertinent regulations and/or Leave-No-Trace -type information on the back of each permit. Such a regulation could also help in improving user compliance. Collecting user information might aide in deterring illegal activities.

Drawbacks: The staff time required to collect and compile the information could be significant. If a self-issuing system is ultimately used, vandalism could be a big problem, making effective data collection difficult due to lack of blank permits. Furthermore, this would add another layer of regulation impacting users of this area of the Forest Preserve. It might also be difficult to ensure registration at the southerly sites (e.g., Scofield Flats and Pike's Beach) via a self-registration system, because they are located about four miles south of where a permit-dispensing 'iron ranger' would likely be placed. Locating an 'iron ranger' south of Thomas Road would not be wise, because many users access the HRSMA from this road and therefore would not pass the registration point if placed south of here. This problem could be avoided by installing iron rangers at these locations, as well, but that also means more staff time to maintain registration sites and increased potential for vandalism.

This alternative would likely have a limited effect on reducing vandalism, improving campsite condition, or curbing illegal activities, but it could lead to improved education and a more accurate record of public use of the area, enabling more effective management of the area and perhaps more appropriate funding for maintenance or enforcement. It could also be a method to investigate profitability of a campground.

Preferred Management Strategies

Alternatives B, C and elements of alternative F are the preferred strategies to be pursued in the HRSMA. Alternative B includes codifying the current management strategy of restricting camping in the "front-country" portions of the area to designated sites only. The regulation will delineate this area to include all wild forest lands from the hamlet of Lake Luzerne north to State Route 418 that are within 1,000 ft of River/Buttermilk Road and to further include all wild forest

lands within 1,000 ft of Gay Pond Road. The regulation will not affect backcountry camping in the HRSMA. This alternative will also include maintaining clear signage. In the past, vandalism of signs in the HRSMA has been a regular problem. This will likely continue in the short-term, so timely replacement of vandalized signs will be stepped up.

Alternative C establishes a day-use area within the HRSMA that will include the area between the Hudson River and River/Buttermilk Road (on lands to the south of the stream exiting Joe Baker Sag) and all HRSMA lands south of Thomas Road (except the designated campsites at Pike's Beach and Scofield Flats). The day-use area will be codified in regulation and the area will be clearly signed.

Additionally, elements of Alternative F will also be enacted. Specifically, no more than one camping permit will be issued per person/group per year for any of the designated campsites within the HRSMA. Additionally, the Department has recently entered into a management agreement with the Open Space Institute (OSI) that will allow certain public uses on the former Sweet Lumber property to the south of the Bear Slides. The Department has developed one new campsite to ADA standards along the road to the Bear Slides that crosses this property.

Education will be important to reinforce compliant behavior in the HRSMA. In the short-term interaction with staff will be the most effective form of education, but signage will be installed at the existing kiosk near the town line to make users aware of the rules of the area. Signage delineating the day-use area will also be installed. Regular maintenance of all signage will be necessary in order to keep up with any vandalism that may occur.

Monitoring of public use of the HRSMA, specifically overnight uses, will occur through regular patrols of the area and via camping permits. The Department may also develop a better system for documenting excessive-length stays. An annual inventory of campsites will be conducted near the end of each season to document campsite conditions. If serious problems of non-compliance continue, a master plan reclassification of the Area to Intensive Use will be sought and, if acquired, the area will be developed into an Intensive Use Campground (Alternative E) and a site specific UMP will be developed for the area.

An important element of the Department's management approach will include maintaining limits on areas where motor vehicles can be used. Significant improvements in resource conditions and Wild Forest character have been seen in the Shelving Rock area of the LGWF when day-use areas are expanded, party areas are eliminated, and motor vehicle access to campsites is controlled. The Department will continue this practice in the HRSMA.

Especially early on, vandalized barriers, signs, picnic tables, and other facilities will need to be replaced quickly and a Department presence will be maintained through frequent staff visits to the area. Assigning an Assistant Forest Ranger (AFR) to the area for the summer could be an effective means of accomplishing this.

Essentially, the area must be made less attractive to those seeking to engage in unlawful and non-compliant behaviors. In the short-term, improving the tools available to Forest Rangers is the best way to achieve this goal. In the long term, appropriate uses should be encouraged and new opportunities created – including new trails and improved access for users with disabilities.

Location-Specific Management Actions

Access for People with Disabilities

Present Conditions:

The Department has undertaken several measures to improve accessibility in the HRSMA, including:

- the installation of accessible privies and picnic tables at most of the area's campsites, including sites at Pike's Beach and Scofield Flats, as well as sites along River Road, Buttermilk Road and Gay Pond road;
- ordinary maintenance of Buttermilk Road, Gay Pond Road, and the access roads to Pike's Beach and Scofield Flats;
- the construction a road providing motorized access for CP-3 permit holders to a new universal campsite located south of the Bear Slide on property owned by the Open Space Institute (OSI).

Objectives:

- to provide access to recreational programs within the Forest Preserve for people with disabilities
- to comply with the ADA Consent Decree

Management Actions:

- Per the 2001 ADA Consent Decree, provide for motorized access to the Bear Slides for people with disabilities via the CP-3 permit program. This access will be via the existing Bear Slides road on the former Sweet Lumber parcel (currently owned by the OSI and managed by DEC under agreement with OSI) to the south of Buttermilk Brook. The Department may close the road seasonally at its discretion during mud season. The road will be open for motorized use by CP-3 permit holders only, from the Town line parking area across Open Space Institute property and on to Forest Preserve lands to within a

short distance of the Bear Slide. The last 900 feet of the road are located on Forest Preserve and will be opened to motor vehicles. This portion of the road will be opened as soon as possible and rehabilitated in year 1 of the UMP, as necessary. A small parking area (space for 2 - 4 cars) will be constructed near (approximately 150 feet from) the Bear Slide. A picnic table(s) will be installed as close to the Bear Slide as possible and an accessible route(s) developed from the parking area to the picnic area. Due to existing topography in the area, it may be difficult or impossible to create an accessible route(s) meeting ADA guidelines with respect to slope. In that case, signage will be posted, advising users of the grades they can expect to encounter. A separate work plan will detail the road rehabilitation.

- Per the 2001 ADA Consent Decree, maintain the road to Pike's Beach for motorized use by people with disabilities via the CP-3 permit program. Perform the necessary maintenance on the main road, likely to include resurfacing and perhaps relocation. Install a gate to protect the roadway during mud season. The Department may close the road seasonally, at its discretion. Eliminate and block spur roads. Due to persistent dumping and vandalism at the campsites at Pike's Beach, non-permit holders will be prohibited from using motor vehicles on the road.
- There are currently two campsites at the end of the road. Each has an accessible picnic table and they share an accessible pit privy. Inappropriate motor vehicle use in this general area has led to unnecessary impacts over a moderately large area. These impacts include loss of vegetative ground cover and the creation of ruts. In the case of campsite #3, the ruts can create barriers, making the campsite less accessible to people with disabilities. A separate work plan will be developed to delineate appropriate parking areas, to remove the ruts and create accessible routes, to improve the campsites for use by people with disabilities, and to encourage vegetation growth that can provide additional screening for campers at these sites. This work plan will include the installation of an additional accessible pit privy at the upper primitive tent site.
- Per the 2001 ADA Consent Decree, maintain the road to Scofield Flats and perform the necessary maintenance to reduce grade and erosion problems. This work will necessitate widening the steep portion of the road (by approximately 2 - 4 feet) in order to install a roadside ditch and cross-drainage and to resurface the road with crushed stone. The road will remain open to public motor vehicle use. Install a gate to protect the roadway during mud season. Indiscriminate motor vehicle use on the flats has also created ruts that may be barriers to camping by people with disabilities at campsites #1 and #2. A separate work plan will be developed to address these issues and will delineate parking areas and separate them from areas for camping, so that the campsite surfaces remain level, firm, and stable. The work plan will include modifications to encourage vegetation growth that can provide additional screening for campers at these sites. Surfaces at these campsites may be hardened if necessary. An accessible pit privy will be installed at campsite #2.
- Maintain Gay Pond Road as a public motor vehicle road between Buttermilk Road and Gay Pond. The Department may close the road seasonally during mud season, at its discretion. Grade to repair areas of potholes and ruts and resurface with crushed stone

where necessary. Replace the several rock-lined cross-drains with culverts. Maintain accessible campsites (including pit privies and picnic tables) along Gay Pond Road.

- Per the 2001 ADA Consent Decree, maintain Buttermilk Road as a CP-3 road from a point 1/4 mile north of the intersection with Gay Pond Road to the site of the old farm (~1.75 miles). The road will be maintained for car and truck use by CP-3 permit holders for access to camping and other recreational programs. Non-permit holders will be prohibited from using motor vehicles beyond this point; this being the same point where the road was closed to public motor vehicle use in the 1990s under Warren County management. A separate work plan will be developed to include resurfacing of the road with crushed stone, installation of culverts where necessary, and repair or replacement of the bridge over the stream coming out of Joe Baker Sag. Install a gate at the beginning of the CP-3 route. Designate and construct an accessible campsite (including pit privy, fire ring and picnic table) along this stretch of Buttermilk Road and another at the old farm site at the end of the road.
- Install six additional accessible picnic tables in the "Pines" area (for a total of eight). Maintain barriers to inappropriate motor vehicle access and construct an accessible trail from the north parking area south along the river approximately 1,200 feet, to a picnic site and perhaps looping back north to the point of beginning. The trail will also provide access to at least 2 other accessible picnic tables in the "Pines". Designate the area as day-use only.
- Rehabilitate approximately 440 feet of the old road to Darling's Ford for motor vehicle use by CP-3 permit holders only and develop an accessible parking area in the existing clearing at this point for these permit holders. Construct an accessible route from an accessible parking area to an accessible picnic table at the ford.
- Install an accessible picnic table in the open area alongside Buttermilk Brook and adjacent to the old road to Darling's Ford.
- Install an accessible picnic table at two of the small day-use sites adjacent to the river north of the "Pines".

Roads

Present Conditions:

There are five roads within the HRSMA that are currently open to public motor vehicle use. These are: the 3.8-mile Gay Pond Road, the 0.3-mile Gay Pond spur road, the 0.2-mile road to Scofield Flats, the 0.3-mile road to Pike's Beach, and Buttermilk Road. The first three are DEC roads. Jurisdiction over the latter is split between the Town of Warrensburg and DEC. The Town of Warrensburg claims jurisdiction over a portion of Buttermilk Road, specifically from the town line north 7,200 ft. The rest of the road to the north is under DEC's jurisdiction. Four of the above roads are specifically mentioned in the ADA Consent Decree as roads that the Department has agreed to consider for continued CP-3 use through the UMP process. (The Gay Pond spur road is not mentioned).

Most of the road to Gay Pond is in fair condition, but is in need of regular maintenance. The most recent maintenance work of the entire road was performed in 2003. Ordinary maintenance of the lower 1.25 miles of road was performed in 2006. Rock-lined cross-ditches on this road require constant maintenance and should be replaced with culverts. The road to Scofield Flats is in fair to poor condition and is in need of regular maintenance due to road surface characteristics.

The road to Pike's Beach is in fair condition. In 2006, the road was maintained, but without resurfacing with crushed stone, it will be difficult and costly to keep the ruts and pot holes from quickly returning. Poor condition of the roadway has led to braiding and widening of the road in many places. Furthermore, repeated vandalism to picnic tables and privies has occurred at the campsites at the end of the road. Dumping has also been a recurring problem. Both problems are likely a result of the ease by which the site can be accessed via motor vehicles and are further exacerbated by the fact that the site is screened from River Road by dense vegetation.

The DEC portion of Buttermilk Road is roughly 2.1 miles long. However, when Warren County operated their Recreation Program in the HRSMA in the mid-to late 1990s, this road was open to public motor vehicle use to a point about 1/4-mile north of its intersection with Gay Pond Road (for a total distance of 0.5 miles under DEC jurisdiction). However, the rest of the road is currently open to CP-3 motorized vehicle use under the ADA Consent Decree in order to provide access for people with disabilities. DEC performed road maintenance in 2006, and the road, as of the writing of this UMP, is in good condition. However, the road requires rehabilitation work, including resurfacing with crushed stone, installing several culverts, and repairing or replacing the timber bridge.

The HRSMA is also characterized by the presence of many old roads, many of which probably date from its time as a working forest owned by the Luzerne Timber Company. Most of these roads have been blocked with barricades and/or signed against motor vehicle use, although illegal motor vehicle use continues to be a problem on some. User-created motor vehicle trails also exist in numerous locations, most notably at Stones Mountain. Regular maintenance of barricades and signage is performed to replace those damaged through vandalism.

Objectives:

- to provide visitors with roads that provide safe access to recreational opportunities in a manner that keeps resource impacts to a minimum.
- to manage DEC roads in the area in compliance with Adirondack State Land Master Plan guidelines
- to provide access to recreational programs within the Forest Preserve for people with disabilities
- to coordinate with local governments to address road maintenance projects that affect trailhead access

Management Actions:

- Perform necessary maintenance on the road to Scofield Flats to reduce grade and erosion problems, per the 2001 ADA Consent Decree. This work will necessitate widening the steep portion of the road (by approximately 2 - 4 feet) in order to install a roadside ditch and cross-drainage. The road will remain open to public motor vehicle use. Install a gate to protect the roadway during mud season.
- Install barriers to eliminate illegal motor vehicle use on the sandy embankment between Scofield Flats and River Road, through the use of boulders, bollards, logs, and/or guard rails. Illegal motorized vehicle use in this area has caused severe erosion and gullying. Re-vegetate embankment using native species.
- Provide for continued motorized access to Pike's Beach by people with disabilities as described in the "Access for People with Disabilities" section above.
- Provide for motorized access to the Bear Slides for people with disabilities as described earlier in the "Access for People with Disabilities" section.
- Maintain Gay Pond road (including 0.3-mile spur just west of pond) as a public motor vehicle road between Buttermilk Road and Gay Pond. Total distance in need of regular maintenance is roughly 3.7 miles (3.4 miles to the pond + the 0.3-mile spur). The Department may close the road seasonally, at its discretion. Perform grading and install additional drainage controls. Areas of potholes and ruts currently leave the traveling surface in poor condition.
- Maintain Buttermilk Road as a public motor vehicle road between the end of the Town's jurisdiction and a point approximately 1/4-mile beyond the intersection with the Gay Pond Road (0.5 miles total). The 1/4 mile section north of the intersection with Gay Pond Road will be resurfaced with crushed stone. Install a gate at the beginning of DEC jurisdiction to protect the roadway during mud season. The Department may close the road seasonally, at its discretion.
- Maintain Buttermilk Road as a CP-3 road beyond this point as described under the "Access for People with Disabilities" section above.
- Maintain barriers at old roads and trails that are not or have never been open to public motor vehicle use, including the Stones Mountain site.
- Replace 5 rock-lined cross-ditches on Gay Pond Road with culverts 14 feet long and 14 - 16 inches in diameter.

Trails

Present Conditions:

There are only three designated trails in the HRSMA: the trail to the Bear Slides, which is open to foot and equestrian use; the snowmobile trail running north-south through the area, which provides an important snowmobile connection between Lake Luzerne and points north; and the Gay Pond road which serves as a snowmobile trail in the winter, providing a connection between

Lake George and points north. Maintenance of the trail system is accomplished by DEC Operations staff, SCA members, local snowmobile club members, other volunteers, and local municipalities. Illegal motor vehicle use on the foot trail to the Bear Slides has created mud holes and caused erosion along the trail. There are also numerous unmarked herdpaths and old roads and skid trails in the area, some of which have been damaged through illegal motor vehicle use.

Objectives:

- To provide enjoyable, safe, and appropriate trails in a manner consistent with the protection of natural resources
- to provide access to recreational programs within the Forest Preserve for people with disabilities

Management Actions:

- Designate existing herdpath in the vicinity of Eddy Mountain and Thomas Mountain as a foot trail. Upgrade trail and install drainage control devices as necessary.
- Construct a new snowmobile trail to provide alternate route to Viele Pond Rd to avoid private parcel at east end of Gay Pond road. The trail currently crosses lands owned by Finch Pruyn & Company in this area via lease agreement between FP & Co. and the South Warren Snowmobile Club. FP & Co. have warned that they intend to close the trail across their land, potentially for two or more winters as they undertake harvesting. A re-route around this parcel will be designated using a combination of old roadway and new trail construction across state and private lands. The new trail will connect with lands owned by Sweet Lumber Company, which has indicated a willingness to allow the trail to cross their property.
- Designate foot trail connecting the above snowmobile trail to Gay Pond to the east
- Maintain existing barricades on many of the area's herdpaths and old roads in order to eliminate illegal motor vehicle use.
- Roads legally open to the public will remain open to all terrain bicycles (a.k.a. mountain bikes).
- All designated trails in the HRSMA will remain open to All-Terrain Bicycles.
- Replace boulders at Darlings Ford - Bear Slides parking area on Buttermilk Road to eliminate illegal motor vehicle incursions. Replace boulders at east end of the trail between the Bear Slides and Gay Pond road.
- Maintain/install barriers at old roads and trails that are not or have never been open to public motor vehicle use.
- Designate Buttermilk Road, Gay Pond Road, the old road between Darlings Ford and Buttermilk Road, and the new road to the Bear Slides through the OSI parcel as horse trails.
- Close illegal trail cut through the northern portion of the HRSMA in Warrensburg.

Currently this trail accesses Hickory Hill Ski Area, and is a non-designated trail.

- Remove gate across old road south of Stones Mountain and place boulders roughly 30 ft further down the old road. The gate is ineffective in its current location.

Campsites

Present Conditions:

As described earlier, the effects of non-compliant behaviors and activities (soil compaction, erosion, littering, dumping, vandalism, loss of vegetation, etc.) have degraded campsites in the HRSMA to standards below those specified for Wild Forests by the APSLMP. These impacts have lead to increases in the size of existing campsites and contributed to the overall degradation of the natural character of the area.

Camping near River Road, Buttermilk Road, Gay Pond Road, Pike's Beach, and Scofield Flats in the HRSMA is currently restricted to designated sites only. "At-large" camping is not allowed in these areas, although some visitors have been known to resort to this approach when designated sites are full. In the interior portions of the area, camping is allowed pursuant to the *150-foot rule* (6NYCRR §190.3(b)), but back-country camping pressure is believed to be very light.

The Shelving Rock area of the Lake George Wild Forest in Washington County has a history of similar problems as the HRSMA, including significant degradation of natural resources, loss of undergrowth vegetation, compaction and erosion of soils, overuse of sanitary facilities, large group use involving underage drinking, all of which detract from the outdoor experience of other users of the area. In 2004, DEC closed a number of campsites in this area and designated /constructed 12 new camp sites in other locations along Shelving Rock and Dacy Clearing Roads. These sites, which were constructed in compliance with the primitive campsite requirements of the Adirondack Park State Land Master Plan, provide a secluded setting allowing campers to truly experience what they have come to expect on the Adirondack Forest Preserve. Camping is only allowed at the designated campsites or more than 500 feet from the Shelving Rock and Dacy Clearing Roads. By placing campsites in smaller areas that prevented "creep" and limited the number of users they could accommodate, and by increasing the distance between sites as well as the distance between sites and the road, problems at the Shelving Rock area have dropped dramatically.

Objectives:

- to provide camping opportunities consistent with protection of natural resources.
- to reduce significantly the aforementioned problems associated with camping in the HRSMA and remediate the impacts.

- to provide access to recreational programs within the Forest Preserve for people with disabilities
- to ensure compliance with APSLMP guidelines for primitive tent sites

Management Actions:

- Repair/replace ADA-compliant privies, fire rings, and picnic tables as needed
- Fireplaces have been provided at most of the primitive tent sites in the HRSMA. The APSLMP allows the maintenance and rehabilitation of fireplaces "to the extent essential to the administration and/or protection of state lands or to reasonable public use thereof but new construction will not be encouraged." Therefore, although fireplaces are currently present, any new campsites established in the HRSMA will include ADA fire rings rather than fire places. Existing fire places at designated campsites in the area will be removed and replaced with ADA-compliant fire rings similar to the recently constructed fire ring at the new campsite on the OSI property over which the Bear Slide Road crosses. The existing fire places are generally not being used by campers. It appears that the fire places are not as conducive to the campfire experience as fire rings, probably because it is difficult to seat more than 2 or 3 people around them, and hence user-created rings have sprung up at most campsites in the area.
- Maintain barricades to motor vehicles on campsites #7 - 15.
- Construct a campsite along the proposed foot trail connecting Gay Pond to the proposed snowmobile trail. The campsite will be located near the beaver pond approximately ½ - mile west of Gay Pond.
- Relocate campsite #15 to meet APSLMP separation distance guidelines. The campsite will be relocated to a site approximately 0.2 miles south. The new site will be located 100 - 250 feet from the road and a foot path will be developed from Gay Pond Road to the site. A two-car pull-off will be provided along the road.
- Enact a regulation codifying the long-standing HRSMA practice of allowing camping at designated sites only;
- Enact regulation establishing day-use area between the river and River/Buttermilk Road;
- Complete annual inventory of campsites
- Enact regulation allowing fires only in Department-provided fireplaces in the day-use area or any area in the HRSMA within 1,000 ft of a motor vehicle road.
- Assign an Assistant Forest Ranger (AFR) to the HRSMA for the summer season to ensure compliance with existing and proposed regulations pertaining to camping and day use within the area.

Water Access Sites

Present Conditions:

There are several traditional access points to the river for boaters and tubers. Warren County traditionally maintained these over the years, but since their pull-out in the '90s, only the southern most site is maintained. Erosion and gullying has occurred at the other two sites, and they are in need of maintenance.

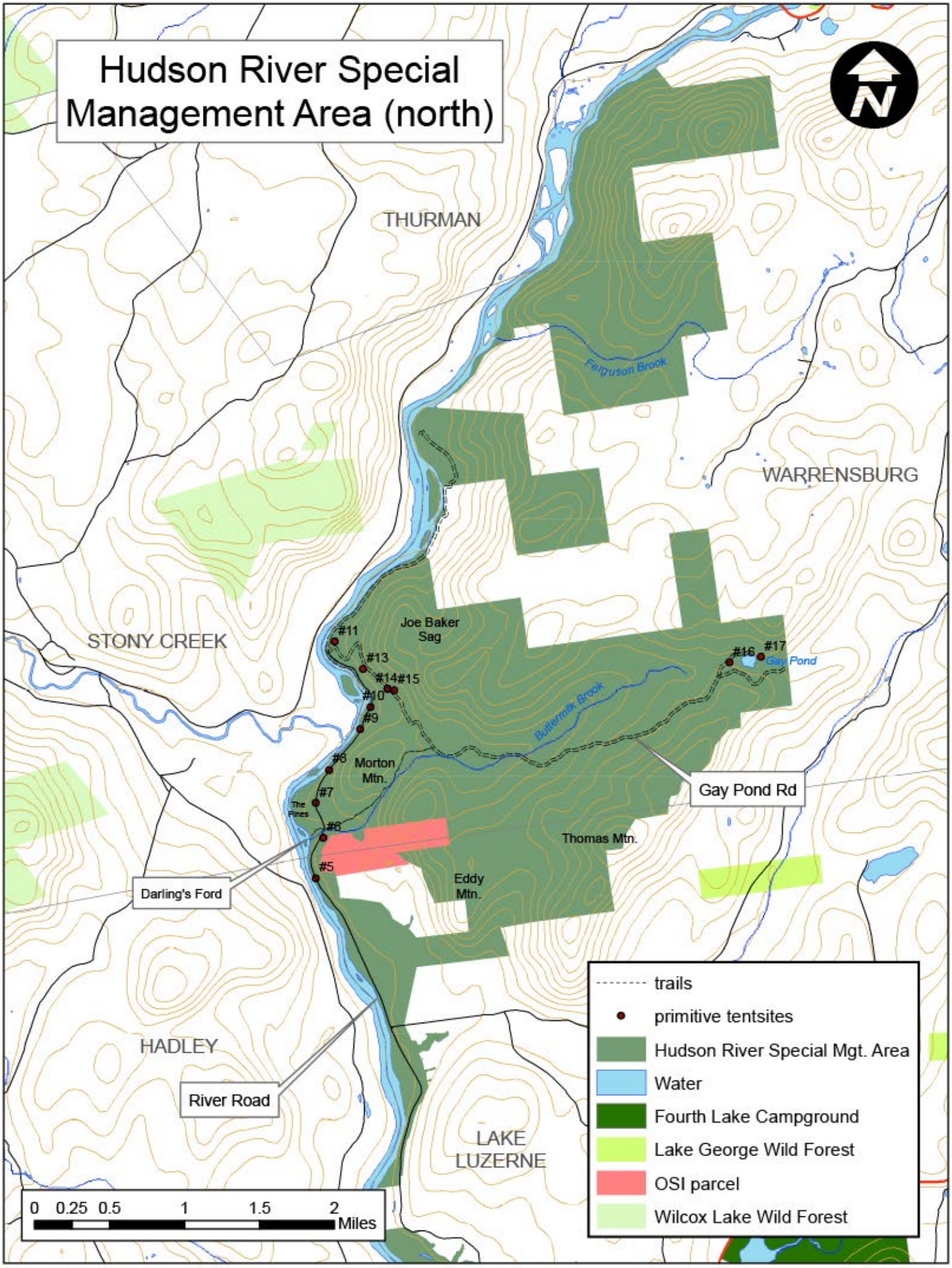
These water access points are intended for boats which can be carried on top of a car's roof. This limits the size of the boat to one which can be hand-carried and launched by one or two persons. The designation "Car-top, Hand Launch" is used to define these launches, and it indicates a launch lacking trailer facilities, and one which is primarily intended for the launching of canoes and kayaks. Launches are situated near the townline, across from intersection of Buttermilk Road and Gay Pond Road, and south of Stones Mountain at the south end of the HRSMA. Maintenance of the log steps at the canoe launch near the intersection of Buttermilk Road and Gay Pond Road was performed in the summer of 2006.

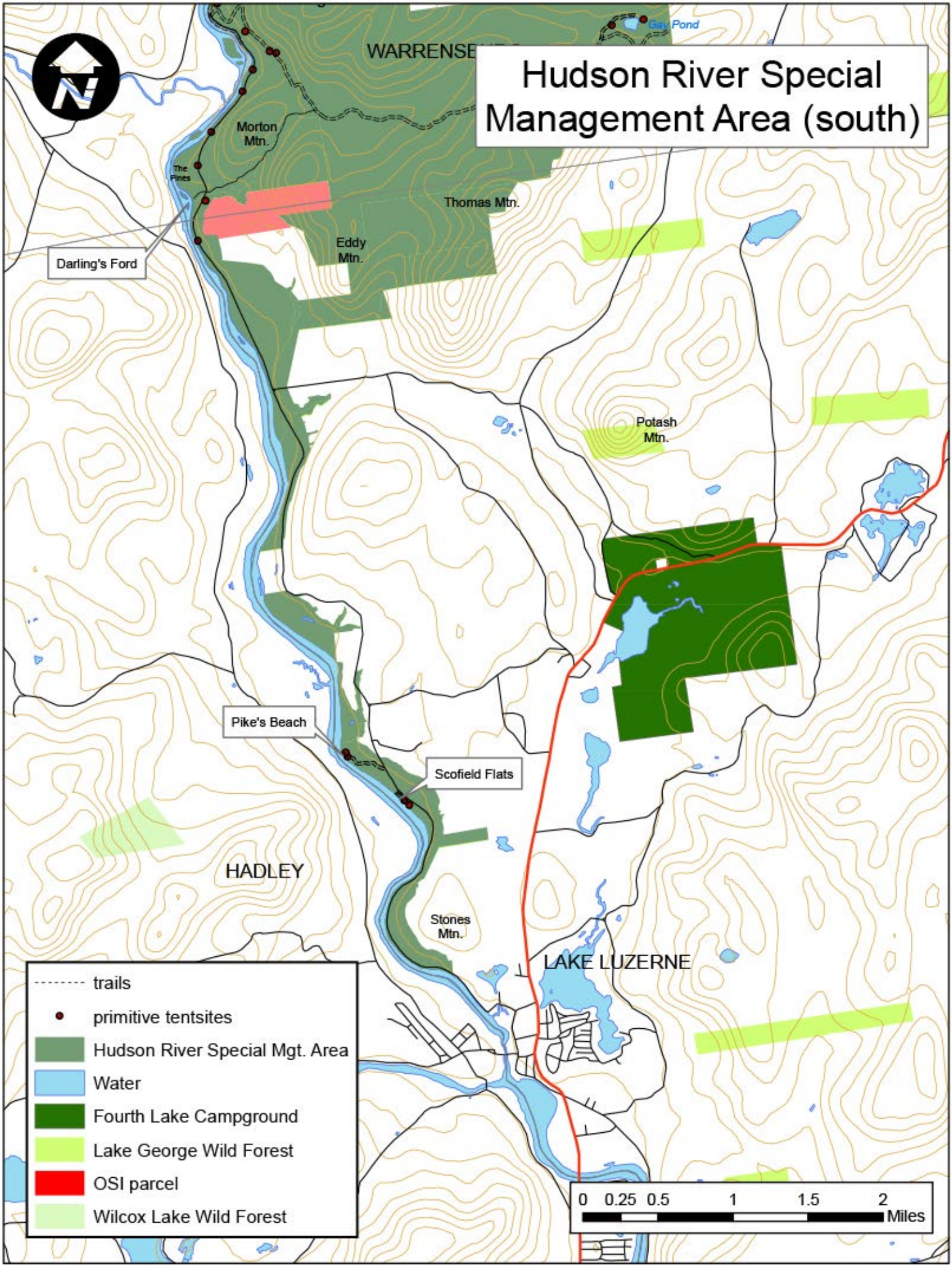
Objectives:

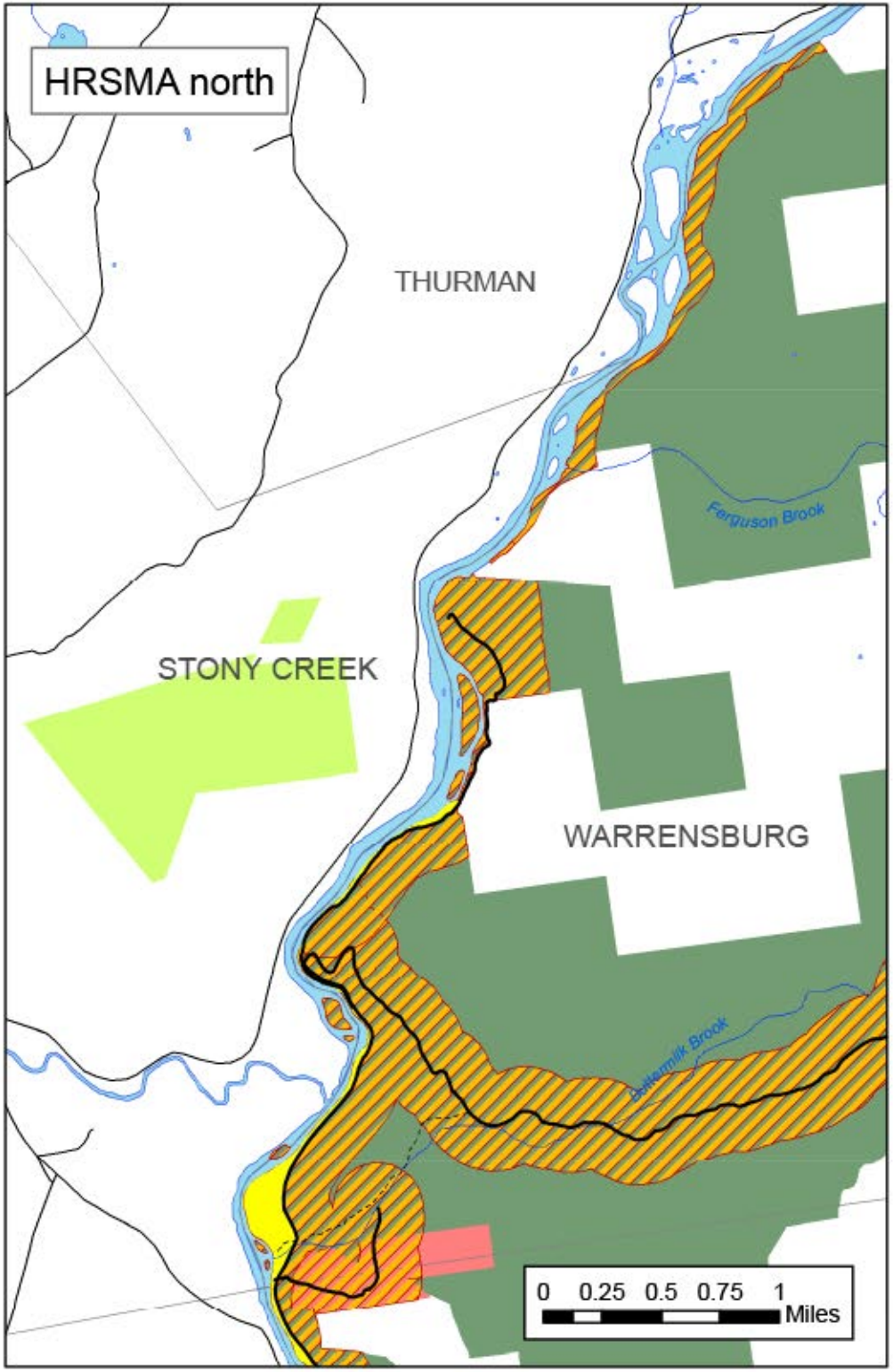
- to provide car-top, hand launch facilities in areas known to have a demand for water access, while ensuring the protection of natural resources

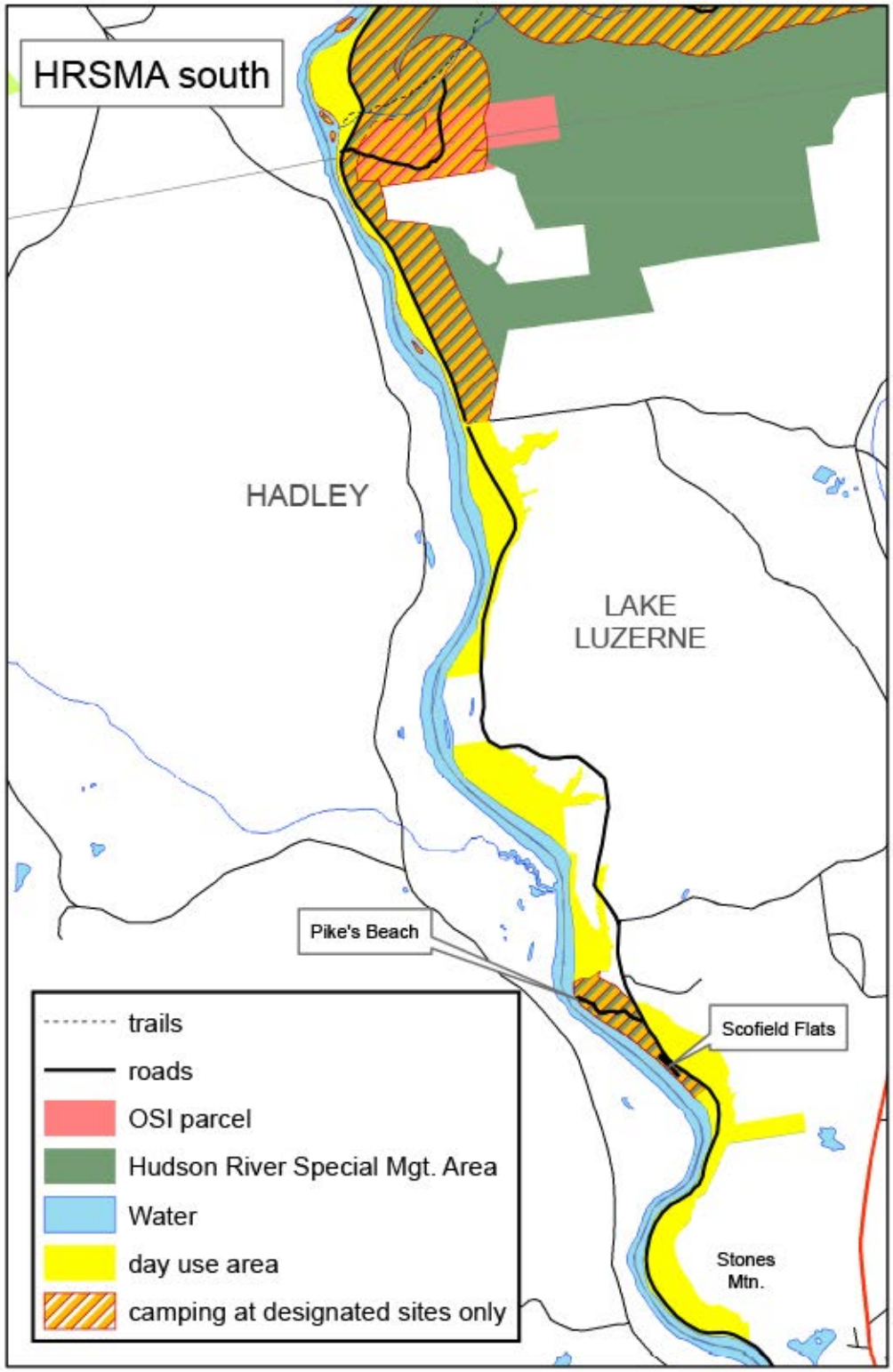
Management Actions:

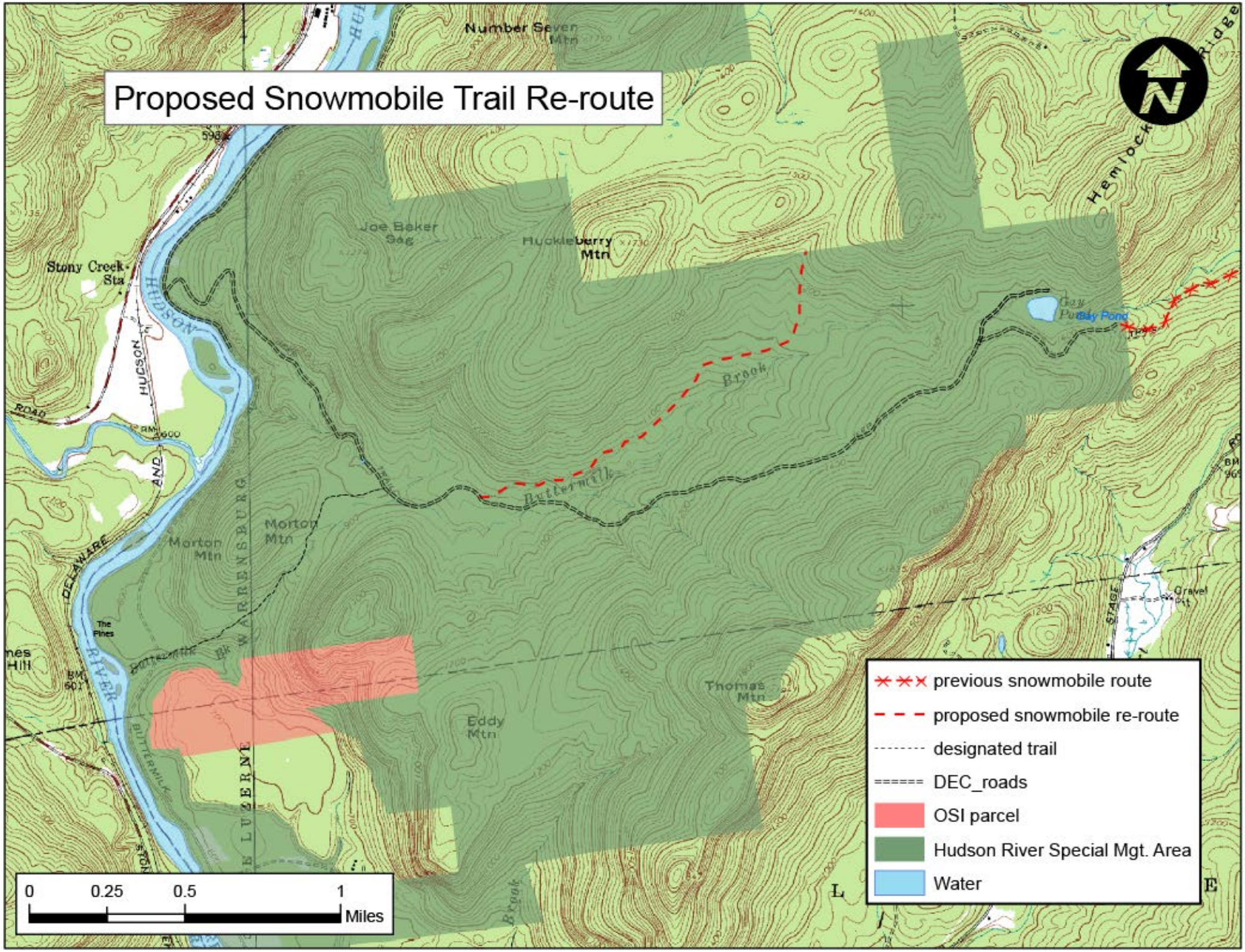
- Install erosion control devices and harden canoe launch near the town line parking area to stem erosion and provide for improved ease of use by people with disabilities.
- Include signage relative to aquatic invasive species at each of the 3 traditional water access sites in the HRSMA.
- Eradicate Japanese knotweed infestation adjacent to Warren County canoe launch parking area near Stones Mountain.

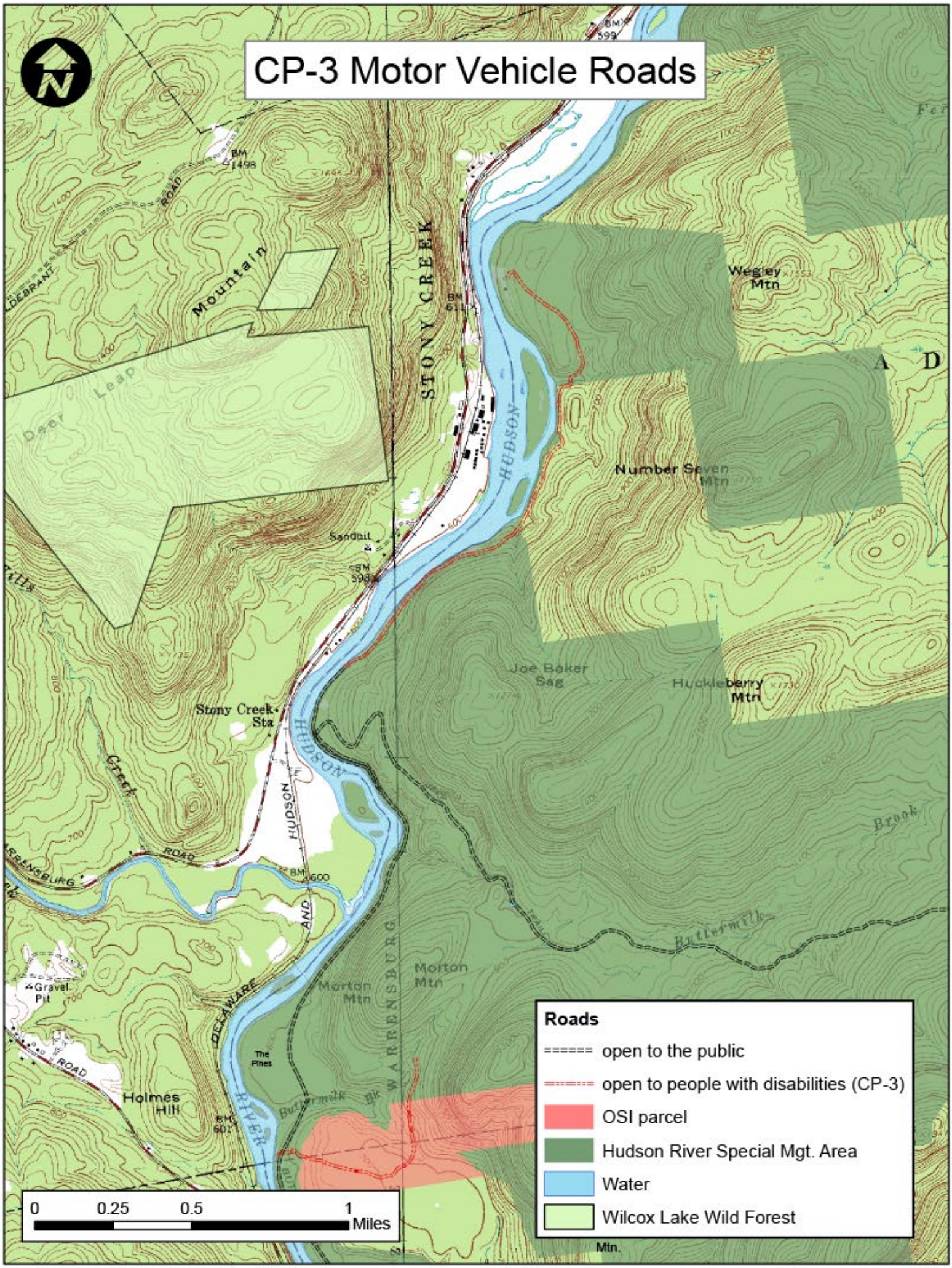

Hudson River Special Management Area (north)
THURMAN
WARRENSBURG
STONY CREEK
HADLEY
LAKE LUZERNE
Ferguson Brook
Buttermilk Brook
Gay Pond
Joe Baker Sag
Morton Mtn.
Thomas Mtn.
Eddy Mtn.
The Pines
#5
#6
#7
#8
#9
#10
#11
#13
#14
#15
#16
#17
Gay Pond Rd
Darling's Ford
River Road
trails
primitive tentsites
Hudson River Special Mgt. Area
Water
Fourth Lake Campground
Lake George Wild Forest
OSI parcel
Wilcox Lake Wild Forest
0 0.25 0.5 1 1.5 2 Miles

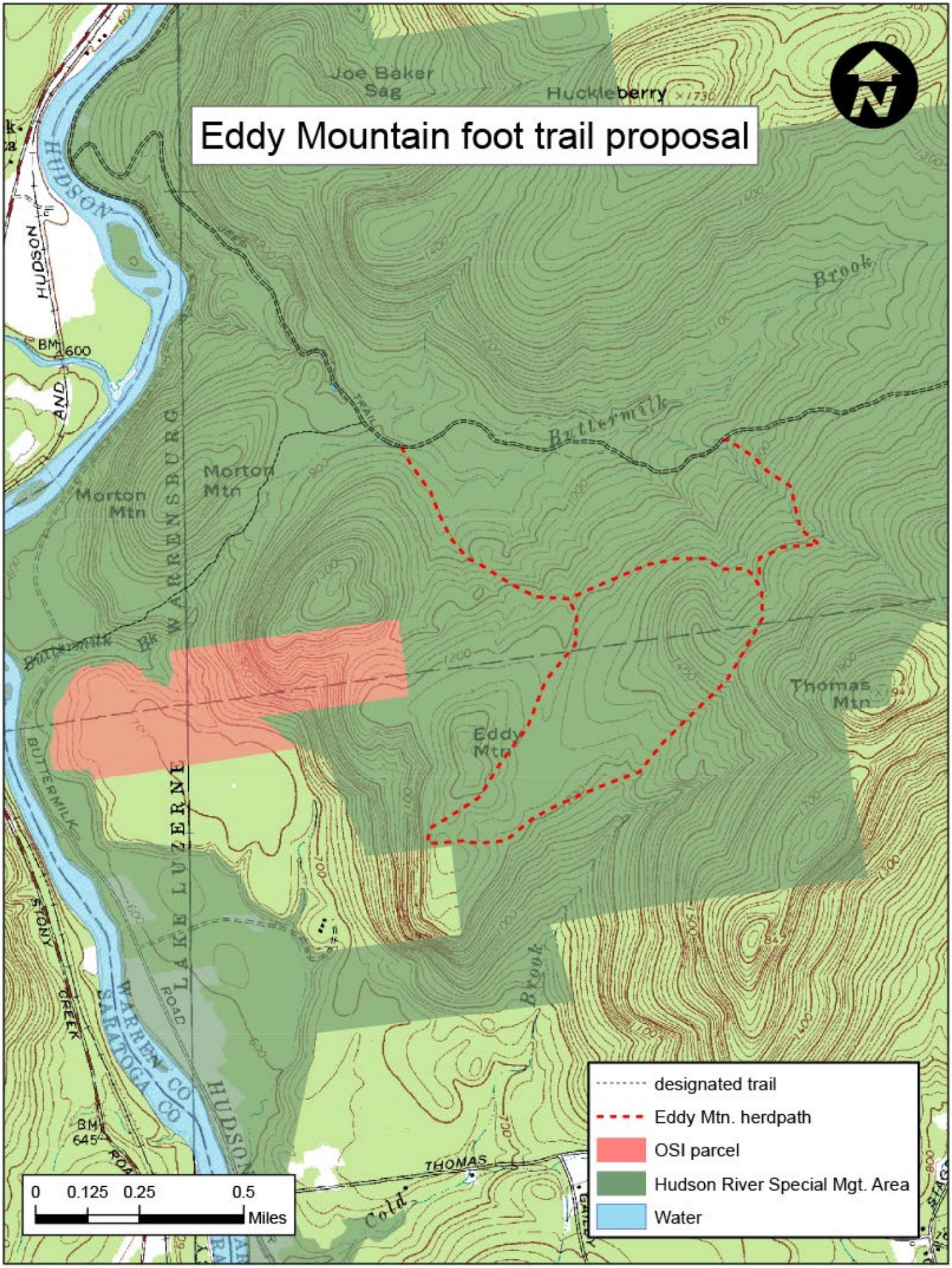

Hudson River Special Management Area (south)
WARRENSE
Gay Pond
Morton Mtn.
The Pines
Thomas Mtn.
Eddy Mtn.
Darling's Ford
Potash Mtn.
Pike's Beach
Scofield Flats
HADLEY
Stones Mtn.
LAKE LUZERNE
trails
primitive tentsites
Hudson River Special Mgt. Area
Water
Fourth Lake Campground
Lake George Wild Forest
OSI parcel
Wilcox Lake Wild Forest
0 0.25 0.5 1 1.5 2
Miles


HRSMA north
THURMAN
Ferguson Brook
STONY CREEK
WARRENSBURG
Buttermilk Brook
0 0.25 0.5 0.75 1
Miles


HRSMA south
HADLEY
LAKE
LUZERNE
Pike's Beach
Scofield Flats
Stones
Mtn.
trails
roads
OSI parcel
Hudson River Special Mgt. Area
Water
day use area
camping at designated sites only


Proposed Snowmobile Trail Re-route
Number Seven Mtn
Joe Baker Sag
Huckleberry Mtn
Stony Creek Sta
HUDSON
HUDSON
ROAD
AND
DELAWARE
RIVER
WARRENSBURG
LUZERNE
Morton Mtn
Morton Mtn
Buttermilk
Brook
Buttermilk Bk
Eddy Mtn
Thomas Mtn
Hemlock Ridge
Bay Pond
STAGE
Gravel Pit
The Pines
Hill
0
0.25
0.5
1
Miles
previous snowmobile route
proposed snowmobile re-route
designated trail
DEC_roads
OSI parcel
Hudson River Special Mgt. Area
Water


CP-3 Motor Vehicle Roads
Roads
open to the public
open to people with disabilities (CP-3)
OSI parcel
Hudson River Special Mgt. Area
Water
Wilcox Lake Wild Forest
0
0.25
0.5
1
Miles
Mountain
Deer Leap
STONY CREEK
HUDSON
Wegley Mtn
Number Seven Mtn
Sandpit
Joe Baker Sag
Huckleberry Mtn
Stony Creek Sta
Creek
ROAD
WARRENSBURG
Morton Mtn
Butternut
Brook
Gravel Pit
DELAWARE
The Pines
Holmes Hill
RIVER
Buttermilk Bk
Mtn.


Eddy Mountain foot trail proposal
designated trail
Eddy Mtn. herdpath
OSI parcel
Hudson River Special Mgt. Area
Water
0 0.125 0.25 0.5 Miles
Joe Baker Sag
Huckleberry
HUDSON
Morton Mtn
Morton Mtn
WARRENSBURG
Buttermilk Bk
Buttermilk
Brook
Eddy Mtn
Thomas Mtn
LAKE LUZERNE
WARREN CO
SARATOGA CO
HUDSON
STONY CREEK
THOMAS
Cold Brook

Acronyms

AANR	Adopt A Natural Resource
ADA	Americans with Disabilities Act
ADAAG	American with Disabilities Act Accessibility Guidelines
ANC	Acid Neutralizing Capacity
ALSC	Adirondack Lakes Survey Corp.
APA	Adirondack Park Agency
APIPP	Adirondack Park Invasive Plant Program
APSLMP	Adirondack Park State Land Master Plan
ASRC	Atmospheric Science Research Center
BMPs	Best Management Practices
DEC	Department of Environmental Conservation
DFWMR	Division Fish &Wildlife, Marine Resources
ECL	Environmental Conservation Law
ECO	Environmental Conservation Officer
EQBA	Environmental Quality Bond Act
HRRA	Hudson River Recreation Area
HRSMA	Hudson River Special Management Area
IMBA	International Mountain Bike Association
LAC	Limits of Acceptable Change
LGWF	Lake George Wild Forest
NiMo	Niagara Mohawk Power Corporation
NRCS	Natural Resource Conservation Service
NYNHP	New York Natural Heritage Program
NYCRR	New York Code of Rules and Regulations
NYS	New York State
ORDA	Olympic Regional Development Authority
OSP	Open Space Plan
SEQRA	State Environmental Quality Review Act
SH	State Highway
SRDUA	Shelving Rock Day Use Area
SRSMA	Shelving Rock Special Management Area
TNC	The Nature Conservancy
UMP	Unit Management Plan

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Appendices

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Appendix Six	-	Mountain Bike Trail Standards and General Guidelines
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APPENDIX I: **Mammalian Inventory**

MAMMALS OF THE LAKE GEORGE WILD FOREST

SCIENTIFIC NAME	COMMON NAME	HABITAT TYPES	PROTECTED STATUS (NYS)	NATURAL HERITAGE PROGRAM RANK
Alces alces	Moose	DF, MF, CF, wetlands	Game species	S1
Blarina brevicauda	Northern Short Tailed Shrew	All habitats	Unprotected	S5
Canis latrans	Coyote	All habitats	Game species	S5
Castor canadensis	Beaver	MF, adjacent to water	Game species	S5
Clethrionomys gapperi	Southern Red-Backed Vole	DF, CF, boreal forest	Unprotected	S5
Condylura cristata	Star-nosed Mole	DF, wetlands	Unprotected	S5
Didelphis virginian	Virginia Opossum	Villages, roadsides	Game species	S5
Eptesicus fuscus	Big Brown Bat	Wooded, semi-wooded area	Unprotected	S5
Erethizon dorsatum	Porcupine	DF, MF, CF	Unprotected	S5
Glaucomys sabrinus	Northern Flying Squirrel	CF, MF	Unprotected	S5
G. volans	Southern Flying Squirrel	DF, MF	Unprotected	S5
Lasioncteris noctivagans	Silver-Haired Bat	Forests adj. lakes, ponds	Unprotected	S4
Lasiurus cinereus	Hairy Bat	DF, MF	Unprotected	S4
L. borealis	Red Bat	All, forested areas	Unprotected	S5
Lepus americanus	Varying Hare	CF, MF, alder swamps	Game species	S5
Lutra canadensis	River Otter	Lakes, ponds, streams	Game species	S5
Lynx rufus	Bobcat	DF, MF, CF	Game species	S4
Marmota monax	Woodchuck	Open areas, DF, roadsides	Unprotected	S5
Martes americana	Marten	DF, MF, CF	Game species	S3
M. pennanti	Fisher	DF, MF, CF	Game species	S3
Mephitis mephitis	Striped Skunk	Open Forests, fields, villages	Game species	S5
Microtus pennsylvanicus	Meadow Vole	Old fields, bogs, marshes	Unprotected	S5

SCIENTIFIC NAME	COMMON NAME	HABITAT TYPES	PROTECTED STATUS (NYS)	NATURAL HERITAGE PROGRAM RANK
M. chrotorrhinus	Rock Vole	Moist talus slopes	Unprotected	S4
Microtus pinetorum	Woodland Vole	DF, meadows	Unprotected	S5
Mus musculus	House Mouse	Buildings	Unprotected	SE
Mustela erminea	Ermine	DF, MF, CF, old fields	Game species	S5
M. vison	Mink	Forested wetlands	Game species	S5
Mustelas frenata	Long-tailed Weasel	Old fields, DF	Game species	S5
Myotis leibii	Small-footed Bat	Caves	Special Concern	S1
M. keea	Keenes Myotis Bat	Woodlands, buildings	Protected	S5
M. sodalis	Indiana Bat (Indiana Myotis)	Caves (winter) summer (unknown)	Endangered	S1
M. lucifugus	Little Brown Bat	Buildings, caves	Unprotected	S5
Odocoileus virginianus	White-tailed Deer	DF, MF, CF	Game species	S5
Ondatra zibethicus	Muskrat	Marshes, rivers w/cattail	Game species	S5
Parascalops breweri	Hairy-tailed mole	DF	Unprotected	S5
Peromyscus leucopus	White-footed Mouse	Woodland edges, DF, CF, MF	Unprotected	S5
P. maniculatus	Deer Mouse	DF, CF, MF, open areas	Unprotected	S5
Pipistrellus subflavusl	Eastern Pipistrelle	Open areas, woodland edges	Unprotected	S5
Procyon lotor	Raccoon	DF, MF, CF, adjacent to water	Game species	S5
Rattus norvegicus	Norway Rat	Buildings	Unprotected	SE
Sciurus carolinensis	Gray Squirrel	Mature DF, villages, towns	Game species	S5
Sorex palustris	Water Shrew	High elevation, woodlands	Unprotected	S4
S. dispar	Longtailed or Rock Shrew	Talus slopes	Unprotected	S4
S. hoyi	Pygmy Shrew	Woodland edges	Unprotected	S4
S. fumeus	Smokey Shrew	DF, MF	Unprotected	S5
S. cinereus	Masked Shrew	All habitat with ground cover	Unprotected	S5

SCIENTIFIC NAME	COMMON NAME	HABITAT TYPES	PROTECTED STATUS (NYS)	NATURAL HERITAGE PROGRAM RANK
Sylvigaus transitionalis	New England Cottontail	Forests edges, brushy areas	Game species	S3
S. floridanus	Eastern Cottontail	Fields, bogs, brushy areas	Game species	S5
Synaptomys cooperi	Southern Bog Lemming	DF, bogs	Unprotected	S4
Tamias striatus	Eastern Chipmunk	DF, MF, hedgerows	Unprotected	S5
Tamiasciurus hudsonicus	Red Squirrel	CF, MF	Unprotected	S5
Urocyon cinereoargenteus	Gray Fox	Lightly wooded, brushy areas	Game species	S5
Ursus americanus	Black Bear	DF, CF, MF	Game species	S5
Vulpes vulpes	Red Fox	Woodland edges, DF, open areas	Game species	S5

Habitat Keys:

CF – Coniferous Forests

DF – Deciduous Forests

MF – Mixed Forests

Brush – Brushy areas, usually abandoned farmlands

* Based on NYSDEC Vertebrate Abstract Data; Significant Habitat Unit, Delmar, New York

APPENDIX II: **Breeding Bird Atlas**

Bird species documented in atlas blocks within, or partially within, Lake George Wild Forest (LGWF) during the New York State Breeding Bird Atlas Project, 1980-1985.

Common Name	Scientific Name	Federal Status	NY Status
Common Loon	Gavia immer	MBTA	Protected-Special Concern
Pied-billed Grebe	Podilymbus podiceps	MBTA	Threatened
American Bittern	Botaurus lentiginosus	MBTA	Protected-Special Concern
Great Blue Heron	Ardea herodias	MBTA	Protected
Green Heron	Butorides virescens	MBTA	Protected
Canada Goose	Branta canadensis	MBTA	Game Species
Wood Duck	Aix sponsa	MBTA	Game Species
Green-winged Teal	Anas crecca	MBTA	Game Species
American Black Duck	Anas rubripes	MBTA	Game Species
Mallard	Anas platyrhynchos	MBTA	Game Species
Ring-necked Duck	Aythya collaris	MBTA	Game Species
Hooded Merganser	Lophodytes cucullatus	MBTA	Game Species
Common Merganser	Mergus merganser	MBTA	Game Species
Turkey Vulture	Cathartes aura	MBTA	Protected
Osprey	Pandion haliaetus	MBTA	Protected-Special Concern
Northern Harrier	Circus cyaneus	MBTA	Threatened
Sharp-shinned Hawk	Accipiter striatus	MBTA	Protected-Special Concern
Cooper's Hawk	Accipiter cooperii	MBTA	Protected-Special Concern
Northern Goshawk	Accipiter gentilis	MBTA	Protected-Special Concern
Red-shouldered Hawk	Buteo lineatus	MBTA	Protected-Special Concern
Broad-winged Hawk	Buteo platypterus	MBTA	Protected
Red-tailed Hawk	Buteo jamaicensis	MBTA	Protected
American Kestrel	Falco sparverius	MBTA	Protected
Ring-necked Pheasant	Phasianus colchicus	Unprotected	Game Species
Ruffed Grouse	Bonasa umbellus	Unprotected	Game Species
Wild Turkey	Meleagris gallopavo	Unprotected	Game Species
American Crow	Corvus brachyrhynchos	MBTA	Game Species
Virginia Rail	Rallus limicola	MBTA	Game Species
Common Moorhen	Gallinula chloropus	MBTA	Game Species
Killdeer	Charadrius vociferus	MBTA	Protected
Spotted Sandpiper	Actitis macularia	MBTA	Protected
American Woodcock	Scolopax minor	MBTA	Game Species
Herring Gull	Larus argentatus	MBTA	Protected
Rock Dove	Columba livia	Unprotected	Unprotected
Mourning Dove	Zenaida macroura	MBTA	Protected
Black-billed Cuckoo	Coccyzus erythropthalmus	MBTA	Protected
Eastern Screech-Owl	Otus asio	MBTA	Protected
Great Horned Owl	Bubo virginianus	MBTA	Protected
Barn Owl	Tyto alba	MBTA	Protected
Barred Owl	Strix varia	MBTA	Protected
Long-eared Owl	Asio otus	MBTA	Protected
Northern Saw-whet Owl	Aegolius acadicus	MBTA	Protected
Common Nighthawk	Chordeiles minor	MBTA	Protected-Special Concern
Whip-poor-will	Caprimulgus vociferus	MBTA	Protected-Special Concern
Chimney Swift	Chaetura pelagica	MBTA	Protected
Ruby-throated Hummingbird	Archilochus colubris	MBTA	Protected
Belted Kingfisher	Ceryle alcyon	MBTA	Protected
Red-headed Woodpecker	Melanerpes erythrocephalus	MBTA	Protected-Special Concern
Yellow-bellied Sapsucker	Sphyrapicus varius	MBTA	Protected
Downy Woodpecker	Picoides pubescens	MBTA	Protected

Hairy Woodpecker	Picoides villosus	MBTA	Protected
Northern Flicker	Colaptes auratus	MBTA	Protected
Pileated Woodpecker	Dryocopus pileatus	MBTA	Protected
Olive-sided Flycatcher	Contopus cooperi	MBTA	Protected
Eastern Wood-Pewee	Contopus virens	MBTA	Protected
Yellow-bellied Flycatcher	Empidonax flaviventris	MBTA	Protected
Alder Flycatcher	Empidonax alnorum	MBTA	Protected
Willow Flycatcher	Empidonax traillii	MBTA	Protected
Least Flycatcher	Empidonax minimus	MBTA	Protected
Eastern Phoebe	Sayornis phoebe	MBTA	Protected
Great Crested Flycatcher	Myiarchus crinitus	MBTA	Protected
Eastern Kingbird	Tyrannus tyrannus	MBTA	Protected
Purple Martin	Progne subis	MBTA	Protected
Tree Swallow	Tachycineta bicolor	MBTA	Protected
Northern Rough-winged Swallow	Stelgidopteryx serripennis	MBTA	Protected
Bank Swallow	Riparia riparia	MBTA	Protected
Cliff Swallow	Petrochelidon pyrrhonota	MBTA	Protected
Barn Swallow	Hirundo rustica	MBTA	Protected
Blue Jay	Cyanocitta cristata	MBTA	Protected
Common Raven	Corvus corax	MBTA	Protected
Black-capped Chickadee	Poecile atricapillus	MBTA	Protected
Tufted Titmouse	Baeolophus bicolor	MBTA	Protected
Red-breasted Nuthatch	Sitta canadensis	MBTA	Protected
White-breasted Nuthatch	Sitta carolinensis	MBTA	Protected
Brown Creeper	Certhia americana	MBTA	Protected
House Wren	Troglodytes aedon	MBTA	Protected
Winter Wren	Troglodytes troglodytes	MBTA	Protected
Marsh Wren	Cistothorus palustris	MBTA	Protected
Golden-crowned Kinglet	Regulus satrapa	MBTA	Protected
Blue-gray Gnatcatcher	Polioptila caerulea	MBTA	Protected
Eastern Bluebird	Sialia sialis	MBTA	Protected
Veery	Catharus fuscescens	MBTA	Protected
Swainson's Thrush	Catharus ustulatus	MBTA	Protected
Hermit Thrush	Catharus guttatus	MBTA	Protected
Wood Thrush	Hylocichla mustelina	MBTA	Protected
American Robin	Turdus migratorius	MBTA	Protected
Gray Catbird	Dumetella carolinensis	MBTA	Protected
Northern Mockingbird	Mimus polyglottos	MBTA	Protected
Brown Thrasher	Toxostoma rufum	MBTA	Protected
Cedar Waxwing	Bombycilla cedrorum	MBTA	Protected
European Starling	Sturnus vulgaris	Unprotected	Unprotected
White-eyed Vireo	Vireo griseus	MBTA	Protected
Blue-headed Vireo	Vireo solitarius	MBTA	Protected
Yellow-throated Vireo	Vireo flavifrons	MBTA	Protected
Warbling Vireo	Vireo gilvus	MBTA	Protected
Philadelphia Vireo	Vireo philadelphicus	MBTA	Protected
Red-eyed Vireo	Vireo olivaceus	MBTA	Protected
Blue-winged Warbler	Vermivora pinus	MBTA	Protected
Nashville Warbler	Vermivora ruficapilla	MBTA	Protected
Northern Parula	Parula americana	MBTA	Protected
Yellow Warbler	Dendroica petechia	MBTA	Protected
Chestnut-sided Warbler	Dendroica pensylvanica	MBTA	Protected
Magnolia Warbler	Dendroica magnolia	MBTA	Protected
Black-throated Blue Warbler	Dendroica caerulescens	MBTA	Protected
Yellow-rumped Warbler	Dendroica coronata	MBTA	Protected
Black-throated Green Warbler	Dendroica virens	MBTA	Protected

Blackburnian Warbler	Dendroica fusca	MBTA	Protected
Pine Warbler	Dendroica pinus	MBTA	Protected
Prairie Warbler	Dendroica discolor	MBTA	Protected
Black-and-white Warbler	Mniotilta varia	MBTA	Protected
American Redstart	Setophaga ruticilla	MBTA	Protected
Ovenbird	Seiurus aurocapillus	MBTA	Protected
Northern Waterthrush	Seiurus noveboracensis	MBTA	Protected
Louisiana Waterthrush	Seiurus motacilla	MBTA	Protected
Mourning Warbler	Oporornis philadelphia	MBTA	Protected
Common Yellowthroat	Geothlypis trichas	MBTA	Protected
Canada Warbler	Wilsonia canadensis	MBTA	Protected
Scarlet Tanager	Piranga olivacea	MBTA	Protected
Northern Cardinal	Cardinalis cardinalis	MBTA	Protected
Rose-breasted Grosbeak	Pheucticus ludovicianus	MBTA	Protected
Indigo Bunting	Passerina cyanea	MBTA	Protected
Eastern Towhee	Pipilo erythrophthalmus	MBTA	Protected
Chipping Sparrow	Spizella passerina	MBTA	Protected
Field Sparrow	Spizella pusilla	MBTA	Protected
Vesper Sparrow	Pooecetes gramineus	MBTA	Protected-Special Concern
Savannah Sparrow	Passerculus sandwichensis	MBTA	Protected
Grasshopper Sparrow	Ammodramus savannarum	MBTA	Protected-Special Concern
Song Sparrow	Melospiza melodia	MBTA	Protected
Swamp Sparrow	Melospiza georgiana	MBTA	Protected
White-throated Sparrow	Zonotrichia albicollis	MBTA	Protected
Dark-eyed Junco	Junco hyemalis	MBTA	Protected
Bobolink	Dolichonyx oryzivorus	MBTA	Protected
Red-winged Blackbird	Agelaius phoeniceus	MBTA	Protected
Eastern Meadowlark	Sturnella magna	MBTA	Protected
Rusty Blackbird	Euphagus carolinus	MBTA	Protected
Common Grackle	Quiscalus quiscula	MBTA	Protected
Brown-headed Cowbird	Molothrus ater	MBTA	Protected
Orchard Oriole	Icterus spurius	MBTA	Protected
Baltimore Oriole	Icterus galbula	MBTA	Protected
Purple Finch	Carpodacus purpureus	MBTA	Protected
House Finch	Carpodacus mexicanus	MBTA	Protected
Red Crossbill	Loxia curvirostra	MBTA	Protected
White-winged Crossbill	Loxia leucoptera	MBTA	Protected
Pine Siskin	Carduelis pinus	MBTA	Protected
American Goldfinch	Carduelis tristis	MBTA	Protected
Evening Grosbeak	Coccothraustes vespertinus	MBTA	Protected
House Sparrow	Passer domesticus	Unprotected	Unprotected

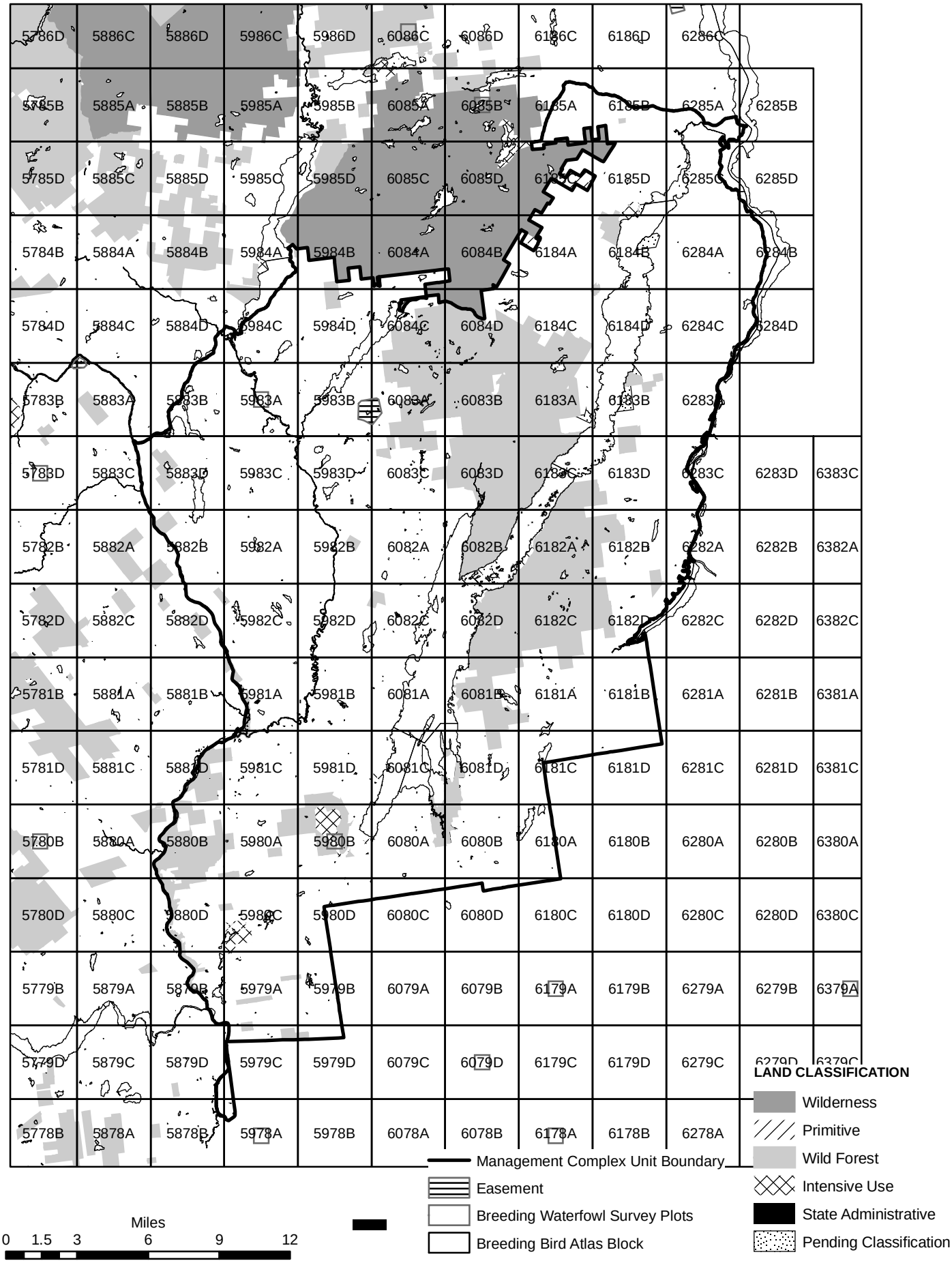
Bird species documented in atlas blocks within, or partially within, Lake George Wild Forest (LGWF) during the New York State Breeding Bird Atlas Project, 2000 - 2005.

Common Name	Scientific Name	Federal Status	NY Status
Common Loon	Gavia immer	MBTA	Protected-Special Concern
Pied-billed Grebe	Podilymbus podiceps	MBTA	Threatened
Double-crested Cormorant	Phalacrocorax auritus	MBTA	Protected
American Bittern	Botaurus lentiginosus	MBTA	Protected-Special Concern
Least Bittern	Ixobrychus exilis	MBTA	Threatened
Great Blue Heron	Ardea herodias	MBTA	Protected

Green Heron	Butorides virescens	MBTA	Protected
Canada Goose	Branta canadensis	MBTA	Game Species
Wood Duck	Aix sponsa	MBTA	Game Species
Mallard	Anas platyrhynchos	MBTA	Game Species
Mallard x Am. Black Duck Hybrid	Anas platyrhynchos x A. rubripes	MBTA	Game Species
Ring-necked Duck	Aythya collaris	MBTA	Game Species
Hooded Merganser	Lophodytes cucullatus	MBTA	Game Species
Common Merganser	Mergus merganser	MBTA	Game Species
Turkey Vulture	Cathartes aura	MBTA	Protected
Osprey	Pandion haliaetus	MBTA	Protected-Special Concern
Bald Eagle	Haliaeetus leucocephalus	MBTA-Endangered	Threatened
Sharp-shinned Hawk	Accipiter striatus	MBTA	Protected-Special Concern
Cooper's Hawk	Accipiter cooperii	MBTA	Protected-Special Concern
Red-shouldered Hawk	Buteo lineatus	MBTA	Protected-Special Concern
Broad-winged Hawk	Buteo platypterus	MBTA	Protected
Red-tailed Hawk	Buteo jamaicensis	MBTA	Protected
American Kestrel	Falco sparverius	MBTA	Protected
Peregrine Falcon	Falco peregrinus	MBTA-Endangered	Endangered
Ruffed Grouse	Bonasa umbellus	Unprotected	Game Species
Virginia Rail	Rallus limicola	MBTA	Game Species
Killdeer	Charadrius vociferus	MBTA	Protected
Spotted Sandpiper	Actitis macularia	MBTA	Protected
Common Snipe	Gallinago gallinago	MBTA	Game Species
American Woodcock	Scolopax minor	MBTA	Game Species
Ring-billed Gull	Larus delawarensis	MBTA	Protected
Great Black-backed Gull	Larus marinus	MBTA	Protected
Caspian Tern	Sterna caspia	MBTA	Protected
Rock Dove	Columba livia	Unprotected	Unprotected
Mourning Dove	Zenaida macroura	MBTA	Protected
Black-billed Cuckoo	Coccyzus erythropthalmus	MBTA	Protected
Great Horned Owl	Bubo virginianus	MBTA	Protected
Barred Owl	Strix varia	MBTA	Protected
Common Nighthawk	Chordeiles minor	MBTA	Protected-Special Concern
Whip-poor-will	Caprimulgus vociferus	MBTA	Protected-Special Concern
Chimney Swift	Chaetura pelagica	MBTA	Protected
Ruby-throated Hummingbird	Archilochus colubris	MBTA	Protected
Belted Kingfisher	Ceryle alcyon	MBTA	Protected
Red-bellied Woodpecker	Melanerpes carolinus	MBTA	Protected
Yellow-bellied Sapsucker	Sphyrapicus varius	MBTA	Protected
Downy Woodpecker	Picoides pubescens	MBTA	Protected
Hairy Woodpecker	Picoides villosus	MBTA	Protected
Pileated Woodpecker	Dryocopus pileatus	MBTA	Protected
Olive-sided Flycatcher	Contopus cooperi	MBTA	Protected
Yellow-bellied Flycatcher	Empidonax flaviventris	MBTA	Protected
Alder Flycatcher	Empidonax alnorum	MBTA	Protected
Willow Flycatcher	Empidonax traillii	MBTA	Protected
Least Flycatcher	Empidonax minimus	MBTA	Protected
Eastern Phoebe	Sayornis phoebe	MBTA	Protected
Great Crested Flycatcher	Myiarchus crinitus	MBTA	Protected
Eastern Kingbird	Tyrannus tyrannus	MBTA	Protected
Cliff Swallow	Petrochelidon pyrrhonota	MBTA	Protected
Blue Jay	Cyanocitta cristata	MBTA	Protected
Fish Crow	Corvus ossifragus	MBTA	Protected
Common Raven	Corvus corax	MBTA	Protected
Black-capped Chickadee	Poecile atricapillus	MBTA	Protected
Red-breasted Nuthatch	Sitta canadensis	MBTA	Protected

White-breasted Nuthatch	Sitta carolinensis	MBTA	Protected
Brown Creeper	Certhia americana	MBTA	Protected
House Wren	Troglodytes aedon	MBTA	Protected
Winter Wren	Troglodytes troglodytes	MBTA	Protected
Golden-crowned Kinglet	Regulus satrapa	MBTA	Protected
Ruby-crowned Kinglet	Regulus calendula	MBTA	Protected
Blue-gray Gnatcatcher	Polioptila caerulea	MBTA	Protected
Eastern Bluebird	Sialia sialis	MBTA	Protected
Veery	Catharus fuscescens	MBTA	Protected
Swainson's Thrush	Catharus ustulatus	MBTA	Protected
Hermit Thrush	Catharus guttatus	MBTA	Protected
Wood Thrush	Hylocichla mustelina	MBTA	Protected
American Robin	Turdus migratorius	MBTA	Protected
Gray Catbird	Dumetella carolinensis	MBTA	Protected
Brown Thrasher	Toxostoma rufum	MBTA	Protected
Yellow-throated Vireo	Vireo flavifrons	MBTA	Protected
Warbling Vireo	Vireo gilvus	MBTA	Protected
Philadelphia Vireo	Vireo philadelphicus	MBTA	Protected
Red-eyed Vireo	Vireo olivaceus	MBTA	Protected
Nashville Warbler	Vermivora ruficapilla	MBTA	Protected
Northern Parula	Parula americana	MBTA	Protected
Chestnut-sided Warbler	Dendroica pensylvanica	MBTA	Protected
Magnolia Warbler	Dendroica magnolia	MBTA	Protected
Cape May Warbler	Dendroica tigrina	MBTA	Protected
Black-throated Blue Warbler	Dendroica caerulescens	MBTA	Protected
Pine Warbler	Dendroica pinus	MBTA	Protected
American Redstart	Setophaga ruticilla	MBTA	Protected
Ovenbird	Seiurus aurocapillus	MBTA	Protected
Northern Waterthrush	Seiurus noveboracensis	MBTA	Protected
Louisiana Waterthrush	Seiurus motacilla	MBTA	Protected
Mourning Warbler	Oporornis philadelphia	MBTA	Protected
Common Yellowthroat	Geothlypis trichas	MBTA	Protected
Canada Warbler	Wilsonia canadensis	MBTA	Protected
Scarlet Tanager	Piranga olivacea	MBTA	Protected
Rose-breasted Grosbeak	Pheucticus ludovicianus	MBTA	Protected
Indigo Bunting	Passerina cyanea	MBTA	Protected
Chipping Sparrow	Spizella passerina	MBTA	Protected
Field Sparrow	Spizella pusilla	MBTA	Protected
Song Sparrow	Melospiza melodia	MBTA	Protected
Swamp Sparrow	Melospiza georgiana	MBTA	Protected
White-throated Sparrow	Zonotrichia albicollis	MBTA	Protected
Bobolink	Dolichonyx oryzivorus	MBTA	Protected
Red-winged Blackbird	Agelaius phoeniceus	MBTA	Protected
Eastern Meadowlark	Sturnella magna	MBTA	Protected
Rusty Blackbird	Euphagus carolinus	MBTA	Protected
Common Grackle	Quiscalus quiscula	MBTA	Protected
Brown-headed Cowbird	Molothrus ater	MBTA	Protected
Purple Finch	Carpodacus purpureus	MBTA	Protected
House Finch	Carpodacus mexicanus	MBTA	Protected
Pine Siskin	Carduelis pinus	MBTA	Protected
American Goldfinch	Carduelis tristis	MBTA	Protected
Evening Grosbeak	Coccothraustes vespertinus	MBTA	Protected
House Sparrow	Passer domesticus	Unprotected	Unprotected

LAKE GEORGE WILD FOREST
BREEDING BIRD ATLAS



APPENDIX III: **Rare Plants**

Rare Plants of the Lake George Wild Forest (NYS lands)

SCIENTIFIC NAME	COMMON NAME	NYS LISTING	State Rank	Global Rank	LOCATION	COUNTY	TOWN
Along Lake George shores							
Lycopodiella caroliniana var. caroliniana	Carolina Clubmoss	Endangered	S1	G5T4	Brayton Marsh	Warren	Queensbury
Sparganium natans	Small Bur-reed	Threatened	S2	G5	Buck Mountain	Washington	Fort Ann
Carex chordorrhiza	Creeping Sedge	Threatened	S2	G5	Dunham Bay Marsh	Warren	Queensbury
Sparganium natans	Small Bur-reed	Threatened	S2	G5	Dunham Bay Marsh	Warren	Queensbury
Sparganium natans	Small Bur-reed	Threatened	S2	G5	Harris Bay Marsh	Warren	Queensbury
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Harris Bay	Warren	Queensbury
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Narrows	Warren	Bolton
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Northwest Bay	Warren	Bolton
Potamogeton alpinus	Northern Pondweed	Threatened	S2	G5	LG Northwest Bay	Warren	Bolton
Potamogeton alpinus	Northern Pondweed	Threatened	S2	G5	LG Shelving Rock Bay	Washington	Fort Ann
Neobeckia aquatica	Lake-cress	Threatened	S2	G4?	Northwest Bay Shore	Warren	Bolton
Other locations							
Carex backii	Back's Sedge	Threatened	S2	G4	The Narrows	Washington	Dresden
Draba arabisans	Rock-cress	Threatened	S2	G4	The Narrows	Washington	Dresden
Draba glabella	Rock-cress	Endangered	S1	G4G5	The Narrows	Washington	Dresden
Pellaea glabella ssp. glabella	Smooth Cliff Brake	Threatened	S2	G5T5	The Narrows	Washington	Dresden
Carex buxbaumii	Brown Bog Sedge	Threatened	S2	G5	South Of The Glen	Warren	Thurman, Warrensburg
Carex crawei	Crawe's Sedge	Threatened	S1S2	G5	South Of The Glen	Warren	Warrensburg
Carex merritt-fernaldii	Fernald's Sedge	Threatened	S2S3	G5	South Of The Glen	Warren	Thurman
Prunus pumila var. depressa	Dwarf Sand-cherry	Threatened	S2	G5T5	South Of The Glen	Warren	Warrensburg, Thurman, Chester, Stony Creek
Scleria triglomerata	Whip Nutrush	Threatened	S2	G5	South Of The Glen	Warren	Warrensburg
Triantha glutinosa	Sticky False Asphodel	Endangered	S1	G3G5	South Of The Glen	Warren	Warrensburg, Thurman, Chester
Trichophorum clintonii	Clinton's Clubrush	Endangered	S1	G4	South Of The Glen	Warren	Thurman, Warrensburg, Chester
Platanthera hookeri	Hooker's Orchid	Endangered	S1	G4	sensitive location	Warren	
Viola novae-angliae	New England Violet	Endangered	S1	G4Q	sensitive location	Warren	

Rare Plants of the Lake George Wild Forest Management Unit (not associated with NYS lands)

SCIENTIFIC NAME	COMMON NAME	NYS LISTING	State Rank	Global Rank	LOCATION	COUNTY	TOWN
Along Lake George shores							
Arabis missouriensis	Green Rock-cress	Threatened	S2	G5?Q	Northwest Bay Shore	Warren	Bolton
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Huletts Landing	Warren	Hague
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Dome Island	Warren	Bolton
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	LG Bolton Landing	Warren	Bolton
Subularia aquatica var. americana	Water Awlwort	Endangered	S1S2	G5T5	Lake George	Warren	Queensbury

Other locations

Arabis missouriensis	Green Rock-cress	Threatened	S2	G5?Q	Little Diameter	Washington	Dresden
Carex scirpoidea	Canadian Single-spike Sedge	Endangered	S1	G5	The Diameter	Washington	Dresden
Carex typhina	Cat-tail Sedge	Threatened	S2	G5	The Diameter	Washington	Dresden
Carex formosa	Handsome Sedge	Threatened	S2S3	G4	Pulpit Point	Washington	Dresden
Carex merritt-fernaldii	Fernald's Sedge	Threatened	S2S3	G5	The Diameter	Washington	Dresden
Carex merritt-fernaldii	Fernald's Sedge	Threatened	S2S3	G5	Sugarloaf Mountain Fort Ann	Washington	Fort Ann
Carex lupuliformis	False Hop Sedge	Rare	S2	G4	South Bay Creek Wetlands	Washington	Fort Ann
Carex lupuliformis	False Hop Sedge	Rare	S2	G4	Chubbs Dock	Washington	Dresden
Lipocarpha micrantha	Dwarf Bulrush	Endangered	S1	G5	Schroon River At Alder Brook	Warren	Warrensburg
Lysimachia hybrida	Lance-leaved Loosestrife	Endangered	S1	G5	South Bay Creek Wetlands	Washington	Fort Ann
Myriophyllum alterniflorum	Water Milfoil	Threatened	S2	G5	Loon Lake	Warren	Chester
Neobeckia aquatica	Lake-cress	Threatened	S2	G4?	South Bay Creek Wetlands	Washington	Fort Ann, Dresden
Neobeckia aquatica	Lake-cress	Threatened	S2	G4?	The Narrows	Washington	Dresden
Panicum flexile	Wiry Panic Grass	Threatened	S2	G5	Lower Road Cliffs	Washington	Putnam

					Putnam		
Panicum flexile	Wiry Panic Grass	Threatened	S2	G5	Best Road Cliff Putnam	Washington	Putnam
Pellaea glabella ssp. glabella	Smooth Cliff Brake	Threatened	S2	G5T5	Lower Road Cliffs Putnam	Washington	Putnam
Polygonum douglasii ssp. douglasii	Douglas' Knotweed	Threatened	S2	G5T5	The Diameter	Washington	Dresden
Polygonum douglasii ssp. douglasii	Douglas' Knotweed	Threatened	S2	G5T5	Pulpit Point	Washington	Dresden
Potamogeton hillii	Hill's Pondweed	Threatened	S2	G3	Loon Lake	Warren	Chester
Potamogeton hillii	Hill's Pondweed	Threatened	S2	G3	Dresden Station Ponds	Washington	Putnam
Potamogeton strictifolius	Straight-leaf Pondweed	Endangered	S1	G5	Loon Lake	Warren	Chester
Potamogeton hillii	Hill's Pondweed	Threatened	S2	G3	Brook North Of Dresden	Washington	Dresden
Potamogeton hillii	Hill's Pondweed	Threatened	S2	G3	Pulpit Point	Washington	Dresden
Rosa acicularis ssp. sayi	Prickly Rose	Endangered	S1	G5T5	Pulpit Point	Washington	Dresden
Schoenoplectus heterochaetus	Slender Bulrush	Endangered	S1	G5	Chubbs Dock	Washington	Dresden
Schoenoplectus heterochaetus	Slender Bulrush	Endangered	S1	G5	The Narrows	Washington	Dresden
Solidago simplex var. randii	Mountain Goldenrod	Threatened	S2	G5T4	The Pinnacle	Washington	Fort Ann
Sporobolus heterolepis	Northern Dropseed	Threatened	S2	G5	South Of The Glen	Warren	Thurman
Subularia aquatica var. americana	Water Awlwort	Endangered	S1S2	G5T5	LG Orcutt Bay	Warren	Lake George
Triantha glutinosa	Sticky False Asphodel	Endangered	S1	G3G5	Hudson River Mill Creek	Warren	Johnsburg
Arethusa bulbosa	Dragon's Mouth Orchid	Threatened	G4	S2	sensitive locations	Warren	
Halenia deflexa	Spurred Gentian	Endangered	S1	G5	sensitive location	Warren	
Pyrola asarifolia ssp. asarifolia	Pink Wintergreen	Threatened	S2	G5T5	sensitive location	Warren	

APPENDIX IV: **Ponds**

Individual Pond Descriptions

A brief description of each pond in the LGWF follows. Definitions of fisheries management classifications referred to in this section of the unit management plan are noted below:

Adirondack Brook Trout Ponds - Adirondack Zone ponds which support and are managed for populations of brook trout, sometimes in company with other salmonid fish species. These waters generally lack warmwater fishes but frequently support bullheads.. The majority of these waters are stocked.

Coldwater Ponds and Lakes - Lakes and ponds which support and are managed for populations of several salmonids. These waters are stocked and lack warmwater fishes but frequently support bullheads.

Other Ponds and Lakes - Waters containing fish communities consisting of native and nonnative fishes which will be managed for their intrinsic ecological value without any new species introductions.

Two-Story Ponds and Lakes - Waters which simultaneously support and are managed for populations of coldwater and warmwater game fishes. The bulk of the lake trout and rainbow trout resource fall within this class of waters. The majority of these waters are stocked.

Unknown Ponds and Lakes - Waters which could not be assigned to the subprogram categories specifically addressed in this document due to a lack of or paucity of survey information. These waters usually contain native and nonnative nongame fishes which will be managed for their intrinsic ecological value without any new species introductions.

Warmwater Ponds and Lakes - Waters which support and are managed for populations of warmwater game fishes and lack significant populations of salmonid fishes. Selected waters are stocked to introduce these species to waters where they do not already exist.

Lake George Wild Forest Unit Plan Pond Descriptions

1. Bennett Pond (UH-P 355)

Bennett Pond is a 6-acre pond that has never been surveyed. The 1932 biological survey reported Bennett Pond as not studied. Minnows were reported in 1963 by DEC.

Bennett Pond will be managed to preserve the fish species present for their intrinsic value.

Management Class: Unknown

2. Brindle Pond (UH-P 350)

Brindle Pond is a warm and shallow, 7-acre pond. Based on a 1964 DEC survey it has a fish community consisting of white sucker and native-but-widely-introduced creek chub. Brindle Pond was not studied during the 1932 biological survey. Brindle Pond is not suitable as an Adirondack brook trout pond because of its shallow depth (3 foot maximum) and warm water temperature. Largemouth bass will be introduced to provide a fishery.

Brindle Pond will be managed as a warmwater pond to preserve its native fishes in the presence of nonnative species.

Management Class: Warmwater

3. Brown Pond (CH-P 5301)

Brown Pond is a 2-acre Adirondack brook trout pond surrounded by bog. Based on a 1986 ALSC survey it has a fish community consisting of brook trout; native-but-widely-introduced brown bullhead; and, nonnative golden shiner. The pond was not studied during the 1932 biological survey. Brook trout stocking began in 1976. Surveys in 1983 and 1986 had similar findings. Brown Pond is not a reclamation candidate because its extensive wetland bog precludes effective treatment and because of a lack of a suitable fish barrier dam site on its outlet.

Brown Pond will be managed as an Adirondack brook trout pond to preserve its native fishes in the presence of a nonnative species.

Management Class: Adirondack brook trout

4. Bumps Pond (CH-P 411)

Bumps Pond is a 7-acre Adirondack brook trout pond. Bumps Pond was first surveyed by DEC in 1954 when a gill netting survey showed the fish community to consist of native-but-widely-introduced brown bullhead and pumpkinseed. A 1984 ALSC survey showed that golden shiners had become established. Bumps Pond was reclaimed with rotenone in 1994. The first post-reclamation netting showed that the rotenone treatment was very successful and only brook trout remained. A second post-treatment netting survey was conducted in 2000. This survey showed that brook trout continued to do very well, but non-native central mudminnows had been introduced. Mudminnows alone will not likely seriously impede the brook trout production of Bumps Pond. Periodic surveys will be conducted to track the health of the brook trout population. Bumps Pond has two outlets. A vertical 8-foot-high rock falls serves as an effective fish barrier dam on the main outlet. A lower natural rock barrier is located on the small outlet (tributary to the main outlet). Upstream of the barrier the main outlet passes through a series of small beaver impoundments which can be effectively treated with rotenone.

Bumps Pond will be reclaimed upon the establishment of additional fish(es) to enhance and restore a native fish community. When a reclamation is determined to be necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey.

Management Class: Adirondack brook trout

5. Buttermilk Pond (UH-P 352)

Buttermilk Pond is a 18-acre Adirondack brook trout pond. Based on a 1987 DEC survey it has a native fish community consisting of brook trout and native-but-widely-introduced brown bullhead. Buttermilk Pond was not studied during the 1932 biological survey and was first netted in 1987. Brook trout stocking commenced in 1955. Buttermilk Pond was most recently surveyed in July of 2005. This survey also captured brook trout and brown bullhead, and revealed that non-native fathead minnows had been introduced. Hopefully fathead minnows will not be constitute a significant competitor to brook trout in this pond. Buttermilk Pond is not a reclamation candidate because large wetlands on its outlet preclude effective treatment and because there is no fish barrier dam site on the outlet.

Buttermilk Pond will be managed as an Adirondack brook trout pond to preserve its native fish species in the presence of non-native fathead minnows.

Management Class: Adirondack brook trout

6. Duck Pond (CH-P 391)

Duck Pond is a 8-acre Adirondack brook trout pond. Based on a 1984 ALSC survey it has a fish community consisting of brook trout and northern redbelly dace; native-but-widely-introduced brown bullhead; and, nonnative golden shiner and bluntnose minnow. The 1929 biological survey did not include netting but referenced a report from the local forest ranger of the presence of smallmouth bass, chain pickerel and sunfish. The first netting occurred in 1954 and collected only brown bullhead, but rainbow trout were reported so the early reports of smallmouth bass, chain pickerel and sunfish were unfounded. Brook trout stocking commenced in 1957 and were the only species netted in a 1968 survey. Duck Pond is another example of rapid accrual of species; golden shiner, bluntnose minnow, and northern redbelly dace were introduced after 1968. There are no records indicating that Duck Pond has ever been reclaimed. Duck Pond is connected with Round Pond (CH-P 390) by a short outlet and is accessible via a trail from Round Pond.

Duck Pond will be managed as an Adirondack brook trout pond to preserve its native fishes in the presence of a nonnative species.

Management Class: Adirondack brook trout

7. Fishbrook Pond (CH-P 407)

Fishbrook Pond is a 35-acre Adirondack brook trout pond. When first surveyed by DEC in 1954, Fishbrook Pond had a fish community dominated by introduced non-native fishes. The catch consisted of non-native golden shiner, yellow perch, smallmouth bass, and banded killifish along with native-but-widely-introduced brown bullhead and native blacknose dace. Fishbrook Pond was reclaimed with rotenone shortly after the 1954 survey to eliminate the non-native competitors. Fishbrook Pond was not surveyed again until a 1984 ALSC effort. This survey revealed that brown bullheads and golden shiners were again present. Fishbrook Pond was reclaimed a second time in 1995 to eliminate the trout competitors and to establish a refuge for Horn Lake strain brook trout, an Adirondack heritage strain. Since the 1995 reclamation, Fishbrook Pond has been netted several times, both to track the status of the fish community and to obtain heritage brook trout eggs. Each survey has indicated a healthy brook trout population and that no trout competitors have reestablished. Because Fishbrook Pond is a critical egg source for Horn Lake strain brook trout it will be frequently monitored to determine the status of introduced species. The pond has a natural rock falls approximately 5 feet high on its outlet.

Fishbrook Pond will be reclaimed upon the establishment of additional fish(es) to enhance and restore a native fish community. When a reclamation is determined to be necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey.

Management Class: Adirondack brook trout

8. Gay Pond (UH-P 330)

Gay Pond is a 4-acre Adirondack brook trout pond. Based on a 1993 DEC survey it has a fish community consisting of brook trout and nonnative golden shiner. Gay Pond was not studied during the 1929 biological survey but brook trout stocking was initiated. The Great Eastern Lumber Company constructed a logging road to the pond in 1956. Gay Pond was reclaimed in 1983. Prior to the reclamation, Gay Pond had a fish community dominated by non-native golden shiners and native-but-widely-introduced brown bullheads. The reclamation was successful in eliminating brown bullhead, but golden shiner either survived the reclamation or were reintroduced. Gay Pond will again be assessed as a reclamation candidate. If this assessment concludes that a reclamation is again necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey.

Gay Pond will be managed as an Adirondack brook trout pond to preserve its native fishes in the presence of a nonnative species.

Management Class: Adirondack brook trout

9. Greenland Pond (CH-P 406)

Greenland Pond is a 8-acre Adirondack brook trout pond. It was first surveyed in 1984 by the Adirondack Lake Survey Corporation. This survey showed Greenland Pond to have a fish community consisting of brook trout and native-but-widely-introduced brown bullhead. Greenland Pond was not studied during the 1929 biological survey. Greenland Pond was most recently surveyed in 1998 by DEC. This survey showed that Greenland Pond still contains a native fish community consisting of brown bullhead and brook trout. Greenland Pond is not a reclamation candidate because extensive wetlands along a 1-mile inlet and the outlet preclude effective treatment and because there is no known fish barrier dam site on its outlet. The pH of Greenland Pond was 5.85 in 1984; however, the pond will not be treated with limestone to improve the pH because the pond does not meet the Division of Fish, Wildlife and Marine's criteria for liming candidates; its flushing rate is too high.

Greenland Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack brook trout

10. Inman Pond (CH-P 433)

Inman Pond is a 5-acre Adirondack brook trout pond. Based on a 1992 DEC survey, it has a fish community consisting of brook trout; native-but-widely-introduced brown bullhead; and , nonnative rock bass. Inman Pond was not studied during the 1929 biological survey. Brook trout stocking commenced in 1990 following a 1985 ALSC survey that collected brown bullhead and rock bass. The pond has a natural 6-foot-high rock falls on its outlet.

Inman Pond will be reclaimed to restore a native fish community.

Management Class: Adirondack brook trout

11. Island Pond (CH-P 386)

Island Pond is a 37-acre pond surrounded by a sphagnum bog filled with logs and detritus. It has marginal oxygen and thermal regimes for trout. Based on a 1984 ALSC survey it has a fish community consisting of native-but-widely-introduced brown bullhead and nonnative golden shiner, banded killifish and fathead minnow. Island Pond was not studied during the 1929 biological survey. Brook trout stocking commenced in 1946. Island Pond has a rather lengthy of fish management including experimental stocking of landlocked salmon and brown trout. These experimental stockings were unsuccessful. Consideration was given to introducing largemouth bass to produce a fishery at Island Pond but was abandoned because of the close proximity of Long Pond, a brook trout pond. Despite Island Pond's limited depth and water chemistry, it has a proven ability to support brook trout. A survey conducted in August of 2003 captured 28 brook trout and 13 brown bullhead. This survey did not capture the non-native minnow species known to exist in Island Pond, but that can be attributed to the fact that only large mesh survey nets were set.

Island Pond will be will be managed as an Adirondack brook trout pond to preserve its native fishes in the presence of a nonnative species.

Management Class: Adirondack brook trout

12. Jabe Pond (CH-P 394)

Jabe Pond is a 151-acre Adirondack brook trout pond. Based on a compilation of survey data it has a fish community consisting of brook trout; native-but-widely-introduced brown bullhead and creek chub; non-native golden shiner, fathead minnow, bluntnose minnow and rainbow smelt; and introduced rainbow trout. Jabe Pond has been managed for Little Tupper Lake heritage strain brook

trout since being reclaimed in 1976. The pond has extensive areas of upwelling water through gravel which fosters brook trout spawning. Jabe Pond outlet has a natural rock fish barrier immediately downstream from the pond. The pond is accessible by means of a DEC maintained 4-wheel drive road that is gated during spring runoff and mud season. The first biological survey in 1929 collected non-native smallmouth bass and pumpkinseed. Smallmouth bass, non-native yellow perch and bullhead were collected in 1954. Rainbow trout were introduced in 1955.

Following reclamation in 1976, Jabe Pond was stocked with Little Tupper Lake Strain brook trout. These heritage strain trout did exceedingly well in the spring fed lake and soon became self-sustaining. In the 30 years since Jabe Pond was reclaimed, a number of native and non-native competitive fish species have become established. However, Jabe Pond continues to produce a satisfactory fishery for both Little Tupper Lake Strain brook trout and rainbow trout. Most ponds cannot continue to be productive for salmonids in the face of so many competitive species. The diverse habitat and spring fed nature of Jabe Pond is thought to be the reason for this anomaly. However, brook trout reproduction is no longer sufficient to maintain the population and periodic stocking is now required. Unwanted fish species do continue to accrue and an August 2005 biological survey undertaken to provide current information for this unit management plan, revealed the presence of two previously unknown species; fathead minnows and bluntnose minnows. Eventually, another reclamation of Jabe Pond will be required to enable the pond to sustain a high quality fishery for salmonids and to provide a refuge for Little Tupper Lake Strain brook trout. However , the August 2005 biological survey showed that a reclamation is not necessary at this time.

Jabe Pond will be reclaimed upon the establishment of additional fish(es) or evidence of a diminished trout fishery to enhance and restore a native fish community. When a reclamation is determined to be necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey. Emphasis will be placed on Little Tupper Lake strain brook trout. The pond will be managed as a Little Tupper Lake strain brook trout brood stock pond following any future reclamation.

Management Class: Adirondack brook trout

13. Lake George (CH-P 367)

Lake George is a 28,200-acre, two-story lake containing a variety of native, nonnative, and native-but-widely-introduced fish species based on a compilation of data from several sources. Its fish community consists of lake trout, brook trout, common shiner, longnose dace, slimy sculpin, and white sucker; native-but-widely-introduced brown bullhead, pumpkinseed, creek chub, and cisco; and, nonnative landlocked salmon, rainbow trout, brown trout, largemouth bass, smallmouth bass, rock bass, northern pike, chain pickerel, yellow perch, black crappie, rainbow smelt, bluntnose minnow, roseyface shiner, fallfish, bowfin, American eel, longeared sunfish and johnny darter .

Lake trout and landlocked salmon have been among the most popular and heavily utilized fishes of Lake George. Smallmouth bass, largemouth bass, and panfish support popular fisheries during late spring and summer months. An angler diary cooperator has been conducted by DEC on Lake George since about 1976 to monitor the lake trout and landlocked salmon fishery. Lake trout and yellow perch are major components of the lake's winter ice fishery. Based on a 1978 DEC creel census, approximately 40 percent of the lake trout harvest and 60 percent of the total lake trout angler use occurs during the winter. The peak angling season for landlocked salmon occurs in May and June. There is adequate public access facilities in the Northern Basin of the lake; however, South Basin angler access is limited to facilities at state campsites and commercially operated marinas from June through August. Another creel survey of Lake George is scheduled for January through March of 2006, to assess the winter ice fishery. However, at this writing the abnormally warm winter temperatures have resulted in a lack of ice cover and the survey has been only sporadic.

Lake George will be managed as a two-story lake to preserve its native fishes in the presence of historically associated and nonnative species. Emphasis will be placed on lake trout and landlocked salmon.

Management Class: Two-story

14. Lapland Pond (CH-P 400)

Lapland Pond is a 13-acre Adirondack brook trout pond surrounded by bog. Based on a 1984 ALSC survey it has a fish community consisting of brook trout and nonnative golden shiner. The 1929 biological survey reported Lapland Pond as private and was not surveyed. Brook trout were introduced in 1947. Golden shiner were first collected in 1984 by the ALSC. Lapland Pond is not a reclamation candidate because large wetlands preclude effective treatment. Although the pH of Lapland Pond is 5.8 it will not be treated with limestone improve the pH because the pond does not meet the Division of Fish, Wildlife and Marine's criteria for liming candidates; its flushing rate is too high.

Lapland Pond will be managed as an Adirondack brook trout pond to preserve its native fish in the presence of a nonnative species.

Management Class: Adirondack brook trout

15. Lily Pond (UH-P 354)

Lily Pond is a 52-acre warmwater lake. Based on a 1956 DEC survey it has a fish community consisting of white sucker; native-but-widely-introduced brown bullhead; and, nonnative largemouth bass and golden shiner. The pond was not studied during the 1932 biological survey.

Lily Pond will be managed as a warmwater lake to preserve native fishes in the presence of nonnative species.

Management Class: Warmwater

16. Little Jabe Pond (CH-P 394a)

Little Jabe Pond is a 9-acre Adirondack brook trout pond. Surveyed during the original biological survey of New York State, the 1929 biological survey reported the presence of non-native smallmouth bass and bluegills. Little Jabe Pond was reclaimed with rotenone in 1976 along with Jabe Pond, to provide a refuge for Little Tupper Lake Strain brook trout. Little Jabe Pond was most recently surveyed in June of 2003. This survey showed that Little Jabe Pond has remained a brook trout monoculture for over 25 years since reclamation in 1976. It continues to provide an important refuge for the Little Tupper Lake Strain of brook trout.

Little Jabe Pond will be reclaimed upon the establishment of additional fish(es) to enhance and restore a native fish community. When a reclamation is determined to be necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey. The pond will be limed if the pH decreases from its present value of 5.9 to 5.7. It has a flushing rate of 1.8 times per year which provides for an effective treatment and meets the Division of Fish, Wildlife and Marine Resources' criteria for liming candidates. The pond will be managed as a harbor for Little Tupper Lake strain brook trout Little Jabe Pond has a natural rock barrier falls on its outlet.

Management Class: Adirondack brook trout

17. Long Pond (CH-P 385)

Long Pond is a 36-acre Adirondack brook trout pond. Based on a 1998 DEC survey it has a fish community consisting of brook trout and nonnative golden shiner and banded killifish. A natural fish barrier exists on the outlet of Long Pond before its confluence with Round Pond outlet. Long Pond was first surveyed in 1946 when the New York Conservation Department (now DEC) collected creek

chub, native-but-widely-introduced brown bullhead, non-native bluntnose minnow and bridle shiner. A 1954 survey revealed that redbreast sunfish, white sucker and non-native golden shiner had all become established. Blacknose dace and common shiner were added to the list of fish species present in 1963. Long Pond is a good example of the rapid accrual of species as a result of unauthorized introductions. Long Pond was reclaimed in 1969 and restocked with brook trout. Netting surveys conducted in 1971 and 1972 captured only salmonids, but golden shiner reappeared in a 1984 ALSC survey. Although the 1998 survey captured two non-native competitive species, the brook trout population in Long Pond appeared to still be relatively strong. This situation will be monitored by periodic biological surveys. If these surveys indicate that the brook trout population has declined, Long Pond will be reclaimed.

Long Pond will be reclaimed if and when biological surveys indicate that introduced species have caused the brook trout population to decline. When a reclamation is determined to be necessary, the UMP will be amended to include it in the Schedule for Implementation and the pond narrative will be revised to reflect the new survey information.

Management Class: Adirondack brook trout

18. Lower Black Mt. Pond (CH-P 372)

Lower Black Mt. Pond is a 6-acre pond. Based on a 1984 ALSC survey it has a fish community consisting of brook trout and nonnative fathead minnow. Lower Black Mt. Pond was not studied during the 1932 biological survey. A 1954 survey reported that there were no fish present at the time of the survey. A 1963 survey collected stocked brook trout and native-but-widely-introduced creek chub. Blacknose dace were observed in 1963. A 1968 survey collected brook trout, all of which were yearlings, along with creek chubs. A 1984 ALSC survey collected only yearling brook trout along with hundreds of fathead minnows. It is unknown why creek chubs were not collected during the 1984 ALSC survey; however, they may have been misidentified during earlier DEC surveys. Brook trout stocking was discontinued in 1989 because the dissolved oxygen and thermal regimes of Lower Black Mt. Pond are believed to be marginal for trout survival. Lower Black Mt. Pond is not a reclamation candidate because it is part of a large wetland complex associated with Upper Black Mt. Pond which preclude treatment.

Lower Black Mt. Pond will be managed to preserve its nonnative fish community for its intrinsic value.

Management Class: Other

19. Lower Spectacle Pond (CH-P 410)

Lower Spectacle Pond is a 5-acre pond. Based on a 1992 DEC survey it has a fish community consisting of native-but-widely-introduced pumpkinseed and brown bullhead and nonnative golden shiner and central mudminnow. Lower Spectacle Pond is not a reclamation candidate because large wetlands along its shoreline and tributaries preclude effective treatment. Brown trout will be introduced to provide a fishery.

Lower Spectacle Pond will be managed as a coldwater pond to preserve its native fish community in the presence of nonnative and introduced species.

Management Class: Coldwater

20. Millman Pond (CH-P 402)

Millman Pond is a shallow, 6-acre pond surrounded by bog probably containing no fish species. The 1929 biological survey reported Millman Pond as not seen. Brook trout were introduced in 1954. In 1984 the ALSC collected ten brook trout, all of which were stocked a few days before the netting. The pH of Millman Pond was 4.93 in 1984. Stocking was discontinued following the 1984 survey because of poor brook trout survival possibly associated with low pH. Millman Pond has little potential for trout management because with a flushing rate of 4.1 times per year, the pond does not meet the Division of Fish, Wildlife and Marine's criteria for inclusion in the liming program.

Millman Pond will be managed to preserve its aquatic community for its intrinsic value.

Management Class: Other

21. Racket Pond (UH-P 351)

Racket Pond is a 12-acre Adirondack brook trout pond. Based on a 1992 DEC survey it has a native fish community consisting of brook trout and native-but-widely-introduced brown bullhead. Racket Pond was not studied during the 1932 biological survey. A 1968 survey collected brown bullhead and reported the presence of minnow species. Surveys in 1971 and 1992 each collected brook trout and brown bullhead. Racket Pond is not a reclamation candidate because its contiguous wetlands are extensive and can not be effectively treated. Racket Pond was most recently surveyed in July of 2005. This survey once again revealed that Racket Pond contains a native fish community consisting of brown bullhead and brook trout.

Racket Pond will be managed as an Adirondack brook trout pond to preserve its native fish community.

Management Class: Adirondack brook trout

22. Palmer Pond (UH-P 368)

Palmer Pond is a 31-acre pond with a long history of fish management. While not surveyed during the original biological survey of New York State in 1932, the pond was known to contain non-native yellow perch. When first surveyed in 1958, the fish community consisted of non-native yellow perch and golden shiner, native-but-widely-introduced brown bullhead and pumpkinseed and native common shiner. The Pond was reclaimed with rotenone on September 10, 1964. A number of salmonid species and strains were stocked in Palmer Pond following the reclamation, and the pond was and is a popular fishing and camping spot. After the unauthorized introduction of several competing fish species, Palmer Pond was again reclaimed in 1989. While it continues to be a popular destination for anglers, Palmer Pond has not been surveyed since the reclamation. Current management is for a combination of salmonid species. Palmer Pond will be surveyed to update our information regarding its fisheries status.

Palmer Pond will be managed as a coldwater pond to enhance it native and introduced trout species.

Management Class: Coldwater

23. Round Pond (CH-P 390)

Round Pond is a deep, 22-acre pond. It is exceptionally deep for a relatively small pond; its maximum depth is greater than 90 feet. Based on a 1984 ALSC survey it has a fish community consisting of lake trout, brook trout, redbreast sunfish and northern redbelly dace; native-but- widely-introduced brown bullhead and creek chub; non-native golden shiner, banded killifish and bluntnose minnow; introduced brown trout and rainbow trout, and bridle shiner. Although bridle shiner are considered a native species, George (1980) reported that they were rare to uncommon in the interior and existed in only seven prominent Adirondack lakes; therefore, they are believed to have been introduced to Round Pond. Round Pond was not surveyed during the 1929 biological survey. Rainbow trout have been stocked in Round Pond every year since 1937 and have performed exceptionally well through the years despite limited oxygen levels during the summer months in the hypolimnion (deeper than 25-30 feet). Rainbow trout are an ideal species for Round Pond because a large area of pelagic (open water) is present for zooplankton. Rainbow trout, redbreast sunfish, brown bullhead, golden shiner and creek

chubs were collected in 1954. The origin of lake trout and brown trout is unknown because there has not been a stocking program for these species. One can only speculate that they were mixed in with brook trout stocked in nearby Duck Pond and emigrated down Duck Pond outlet to Round Pond, or were present among the rainbow trout stocked in Round Pond, or are the result of an unauthorized stocking.

Round Pond will be managed as a coldwater fishery for rainbow trout in the presence of native and nonnative species.

Management Class: Coldwater

24. Unnamed Pond (CH-P 387)

Unnamed Pond (CH-P387) is actually a 2-acre bay of Island Pond (CH-P386) with a fish community consisting of native-but-widely-introduced brown bullhead and nonnative banded killifish, fathead minnow and golden shiner. No doubt, it shares the same fish species as Island Pond. Unnamed Pond (CH-P387) will be managed in concert with Island Pond as and Adirondack brook trout pond.

Management Class: Adirondack brook trout

25. Unnamed Pond (CH-P 401)

Unnamed Pond (CH-P 401) is a 1-acre Adirondack brook trout pond. Based on a 1984 ALSC survey it has a fish community consisting of brook trout and nonnative golden shiner. This unnamed pond is located on a tributary to Lapland Pond. Topography of the area suggests that there is no fish barrier between the pond and Lapland Pond. The pond was not studied during the 1932 biological survey. Although the pH of this unnamed pond was 5.17 in 1984, it has a flushing rate in excess of 158 times per year, well above the maximum of 2 times per year to achieve cost effective treatment with limestone.

Unnamed Pond (CH-P 401) will be managed as an Adirondack brook trout pond to preserve its native fish in the presence of a nonnative species.

Management Class: Adirondack brook trout

26-43 Unnamed Ponds

Unnamed Ponds (UH-P 368, CH-P 388, UH-P 391, UH-P 393, CH-P 408, UH-P 550, CH-P 5260, CH-P 5292, CH-P 5297, CH-P 5303, CH-P 5304, CH-P 5305, CH-P 5306, CH-P 5339, UH-P 5390, UH-P 5394, UH-P 5395, and UH-P 5396) are generally small ponds less than 5-acres that have never been surveyed and have an unknown fish community.

These seventeen ponds will be managed to preserve the species present for their intrinsic value.

Management Class: Unknown

44. Upper Black Mt. Pond (CH-P 373)

Upper Black Mountain Pond is a 2-acre Adirondack brook trout pond. Based on a 1984 ALSC survey it has a fish community consisting of brook trout and nonnative fathead minnow. Upper Black Mountain Pond was not studied during the 1932 biological survey and was in private ownership prior to being purchased by the state circa 1945. Brook trout stocking began in 1945. Brook trout, non-native golden shiner, and native-but-widely-introduced creek chub were collected and blacknose dace were observed during a 1963 survey. It is not known why golden shiner, creek chub, and blacknose dace were captured in the 1963 survey but did not appear in the 1984 ALSC survey. One can only speculate that these species were not abundant during the 1984 survey. Upper Black Mt. Pond is connected to Lower Black Mt. Pond and is not a reclamation candidate because large wetlands surround the pond and outlet which preclude effective treatment.

Upper Black Mountain Pond will be managed as an Adirondack brook trout pond to preserve its native fish in the presence of a nonnative species.

Management Class: Adirondack brook trout

45. Upper Spectacle Pond (CH-P 409)

Upper Spectacle Pond is a 5-acre pond. Based on a 1992 DEC survey it has a fish community consisting of native-but-widely-introduced brown bullhead and pumpkinseed and nonnative golden shiner. Upper Spectacle Pond is not a reclamation candidate because large wetlands along its shoreline preclude effective treatment. Brown trout will be introduced to provide a fishery.

Upper Spectacle Pond will be managed as a coldwater pond to preserve its native fishes in the presence of nonnative and introduced species.

Management Class: Coldwater

46. Spectacle Ponds (CH-P 392 and CH-P 393)

Spectacle Ponds is a 12-acre pond consisting of two connected basins. Based on a 1985 ALSC survey it has a fish community consisting of native-but-widely- introduced brown bullhead and nonnative golden shiner. Spectacle Ponds was not studied during the 1929 biological survey. Lower Spectacle Pond (CH-P 392) is a marshy portion of Spectacle Ponds with little open water. Brook trout stocking commenced before 1946. Brown bullhead were reported in 1954. Surveys in 1958 and 1968 collected yearling brook trout, brown bullhead and golden shiner. Brook trout stocking was discontinued in 1984 following an ALSC survey because of poor trout survival. Largemouth bass will be introduced to provide a fishery.

Spectacle Ponds will be managed as a warmwater pond to preserve its native fish community in the presence of nonnative and introduced species.

Management Class: Warmwater

47. Wolf Pond (CH-P 389)

Wolf Pond is a shallow and warm, 3-acre pond. Based on a 1956 DEC survey it has a fish community consisting of native-but-widely-introduced brown bullhead. Wolf Pond was not studied during the 1929 biological survey. Wolf Pond is not considered a brook trout pond because it has limited potential for trout survival. Less than an acre of Wolf Pond is in excess of 5 feet deep, and water temperatures have been recorded in excess of 73 degrees at 4 feet during August.

Wolf Pond will be managed to preserve its native fish community for its intrinsic value.

Management Class: Other

Note: For purposes of this plan, only waters officially recognized (those with P numbers) by the NYS Biological Survey are included. The Lake George Wild Forest contains a number of small (less than 1 acre) wetland/beaver ponds which have not been assigned P numbers. In some years these pond/wetland complexes may be a nearly dry wetland, while during some wet years or during years when beaver are active they contain a small impoundment. These pond/wetlands will be managed to preserve and protect the existing fish communities for their intrinsic value.

Table 3. Classification of Common Adirondack Upland Fish Fauna Into Native, Nonnative, and Native But Widely Introduced Adapted from George, 1980

Native To Adirondack Upland

Blacknose dace	Creek chubsucker
White sucker	Longnose dace
Longnose sucker	Slimy sculpin
Northern redbelly dace	Lake chub
Redbreast sunfish	Common shiner
Finescale dace	Round whitefish

Native Species Widely Introduced within the Adirondack Upland [1]

Brook trout	Cisco
Brown bullhead	Lake trout
Pumpkinseed	Creek chub

Nonnative to Adirondack Upland

Golden shiner	Smallmouth bass
Chain pickerel	Yellow perch
Largemouth bass	Fathead minnow [2]
Brown trout	Rainbow trout
Splake	Atlantic salmon
Lake whitefish	Walleye
Rainbow smelt	Central mudminnow
Bluegill	Redhorse suckers (spp.)
Northern pike	Black crappie
Rock bass	Fallfish [4]
Bluntnose minnow [5]	Banded killifish[3]
Pearl dace	

1 These native fishes are known to have been widely distributed throughout Adirondack uplands by DEC, bait bucket introduction, and unauthorized stocking. This means that their presence does not necessarily indicate endemicity. Other species listed above as native have been moved from water to water in the Adirondack Upland, but the historical record is less distinct.

2 Not mentioned by Mather (1884) from Adirondack collections, minor element southern Adirondack Uplands (Greeley 1930-1935).

3 Early collections strongly suggest dispersal as a bait form.

4 Adventive through stocking.

5 Not mentioned by Mather (1884) from Adirondack collections, widely used as bait.

Table 1. Lake George Wild Forest Unit Management Plan Ponded Water Inventory Data

Name	P#	W'shed	File #	County	USGS Quad (7 1/2')	Management Class	Biological Survey Area (acres)	Maximum Depth (meters)	Planimetered Mean Depth (meters)
Bennett Pond	355	UH	654	Warren	Brant Lake	Unknown	6.4	1.5	
Brindle Pond	350	UH	646	Warren	Brant Lake	Warmwater	6.9		1
Brown Pond	383 a	CH		Warren	Silver Bay	Adirondack Brook Trout	1.7	4	1.5
Bumps Pond	411	CH	469	Washington	Shelving Rock	Adirondack Brook Trout	6.9	5.5	1.5
Buttermilk Pond	352	UH	649	Warren	Silver Bay	Adirondack Brook Trout	17.5	4.6	1.8
Duck Pond	391	CH	448b	Warren	Brant Lake	Adirondack Brook Trout	8.2	5.2	2.1
Fishbrook Pond	407	CH	469	Washington	Shelving Rock	Adirondack Brook Trout	35.1	17.3	4.9
Gay Pond	330	UH	592	Warren	Luzerne	Adirondack Brook Trout	4.4	4.9	
Greenland Pond	406	CH	469	Washington	Shelving Rock	Adirondack Brook Trout	8.2	4.6	1.6
Inman Pond	433	CH		Washington	Putnam Mountain	Adirondack Brook Trout	5.2	9.4	3
Island Pond	386	CH	423	Warren	Brant Lake	Adirondack Brook Trout	37.1	7.6	1.6
Jabe Pond	394	CH	453	Warren	Silver Bay	Adirondack Brook Trout	151.2	5.8	5.75
Lake George	367	CH	416	Essex,	Ticonderoga,	Two-story	28200.0	56.1	
				Warren, Washington	Putnam Mountain, Shelving Rock, Silver Bay, Bolton Landing,				
Lapland Pond	400	CH	466	Washington	Putnam, Lake George Shelving Rock	Adirondack Brook Trout	13.3	4.6	1.3
Lily Pond	354	UH	651	Warren	Silver Bay	Warmwater	51.9		
Little Jabe Pond	394 a	CH	453	Warren	Silver Bay	Adirondack Brook Trout	8.9	6.7	2.3
Long Pond	385	CH	447	Warren	Brant Lake	Adirondack Brook Trout	35.6	11.6	3.7
Lower Black Mtn	372	CH	421	Washington	Shelving Rock	Other	5.9	3.7	1.6

Name	P#	W'shed	File #	County	USGS Quad (7 1/2')	Management Class	Biological Survey Area (acres)	Maximum Depth (meters)	Planimetered Mean Depth (meters)
Pond									
Lower Spectacle Pond	410	CH	469d	Washington	Shelving Rock	Coldwater	5.0	3.6	
Millman Pond	402	CH	466	Washington	Shelving Rock	Other	5.9	7.3	2.1
Palmer Pond	368	UH	670	Warren	Chestertown	Coldwater	30.0	5.2	2.8
Racket Pond	351	UH	647	Warren	Brant Lake	Adirondack Brook Trout	12.1	7.5	
Round Pond	390	CH	448a	Warren	Brant Lake	Coldwater	22.0	28	7.4
Spectacle Ponds	393	CH	448c	Warren	Silver Bay	Warmwater	11.6	1.5	0.7
Unnamed Pond	368	UH				Unknown	29.4		
Unnamed Pond	387	CH		Warren	Brant Lake	Other	1.7	4	1.8
Unnamed Pond	388	CH				Unknown	4.0		
Unnamed Pond	391	UH				Unknown	17.5		
Unnamed Pond	393	UH				Unknown	1.2		
Unnamed Pond	401	CH		Washington	Shelving Rock	Adirondack Brook Trout	1.2	1.9	0.9
Unnamed Pond	408	CH		Washington	Shelving Rock	Unknown	21.3		
Unnamed Pond	550	UH				Unknown	1.5		
Unnamed Pond	5260	CH				Unknown	4.9		
Unnamed Pond	5292	CH				Unknown	2.5		
Unnamed Pond	5297	CH				Unknown	11.9		
Unnamed Pond	5303	CH				Unknown	2.7		
Unnamed Pond	5304	CH				Unknown	3.5		
Unnamed Pond	5305	CH				Unknown	1.5		
Unnamed Pond	5306	CH				Unknown	1.5		
Unnamed Pond	5339	CH				Unknown	4.7		
Unnamed Pond	5390	UH				Unknown	2.5		
Unnamed Pond	5394	UH				Unknown	2.5		
Unnamed Pond	5395	UH				Unknown	1.0		
Unnamed Pond	5396	UH				Unknown	2.2		
Upper Black Mtn Pond	373	CH	422	Washington	Shelving Rock	Adirondack Brook Trout	2.0	4	1.9
Upper Spectacle	409	CH	469c	Washington	Shelving Rock	Coldwater	5.0	4.9	

Name	P#	W'shed	File #	County	USGS Quad (7 1/2')	Management Class	Biological Survey Area (acres)	Maximum Depth (meters)	Planimetered Mean Depth (meters)
Pond Wolf Pond	389	CH	447d	Warren	Silver Bay	Other	3.0	1.5	
					15	Adirondack Brook Trout	348.4		
					5	Warmwater	75.4		
					1	Two-story	28,200.0		
					4	Other	16.5		
					19	Unknown	101.4		
					3	Coldwater	59		
					47	Total	28,798.3		27-Dec-01

Table 2. Lake George Wild Forest Unit Management Plan Ponded Water Survey Data

Name	W'shed	P#	Most Recent Chemical Survey					Most Recent Biological Survey		
			Year	Source	ANC (ueq/l)	pH	Conductivity (ppm)	Year	Source	Fish Species Present and Number Caught *
Bennett Pond	UH	355	1963	DEC				1963	DEC	Minnows (spp.) observed
Brindle Pond	UH	350	1964	DEC		6.4		1964	DEC	CC, WS
Brown Pond	CH	383a	1986	ALSC	216.1	7.19	130	1986	ALSC	ST(28), GS(8), BB(43)
Bumps Pond	CH	411	2000	DEC	45.1	6.71	25.1	2000	DEC	ST(10),CM(2)
Buttermilk Pond	UH	352	2005	DEC	124.5	7.34	21.2	2005	DEC	ST(14), BB(93), FhM(16)
Duck Pond	CH	391	1984	ALSC	735.2	7.33***	86.9	1984	ALSC	ST(1), GS(10), BB(12), BnM(4), NRD(8)
Fishbrook Pond	CH	407	2001	DEC	42.4	6.83	21.7	2001	DEC	ST(51), RT(3)
Gay Pond	UH	330	1993	DEC	66.6	6.99	26.57	1993	DEC	ST(4), GS(420)
Greenland Pond	CH	406	1998	DEC	7.58	5.87	17.8	1998	DEC	BB(174), ST(8)
Inman Pond	CH	433	1992	DEC	280.9	7.63	49.6	1992	DEC	BB(24), RB(36), ST(5)
Island Pond	CH	386	2003	DEC	285.3	7.65	41	2003	DEC	ST (28), BB(13
Jabe Pond	CH	394	2005	DEC	144.5	7.42	29.6	2005	DEC	ST(38), RT(4), RSM(5), BB(29), GS(5), BT(4),BNM (62), FHM(14),
Lake George	CH	367								LT, LLS, RT, BT, CIS, SMB, LMB, NP, PKL, YP, BB(), PKS, RB, WS, CRP RSM, minnows (spp
Lapland Pond	CH	400	1984	ALSC	24.4	5.84	18.8	1984	ALSC	GS(249), ST(18)
Lily Pond	UH	354	1956	DEC		6.8		1956	DEC	LMB, WS, GS, BB
Little Jabe Pond	CH	394a	2003	DEC	14.4	6.05	20.9	2003	DEC	ST(8)
Long Pond	CH	385	1998	DEC	299.44	7.62	40.5	1998	DEC	ST(30), GS(80), BKF(3)
Lower Black Mtn Pond	CH	372	1984	ALSC	128.8	6.92	31.2	1984	ALSC	FhM(354), ST(6)
Lower Spectacle Pond	CH	410	1992	DEC	65.9	6.8	25.6	1992	DEC	GS(63), BB(12), PKS(78), CM(2)
Millman Pond	CH	402	1984	ALSC	-2.9	4.93	22.4	1984	ALSC	ST(10)
Palmer Pond	UH	368	1987	ALSC	133.7	7.04	28.6	1987	ALSC	TgrT(18), CC(228), GS(38)
Racket Pond	UH	351	2005	DEC	136.2	7.36	23.0	2005	DEC	ST (8), BB (77)
Round Pond	CH	390	1984	ALSC	514.5	7.65	67.3	1984	ALSC	BT(5), LT(2), RT(6), ST(1), TgrT(1), GS(54), BB(13), RbS(13), CC(40),BK(9), BnM(12), NRD(2), BS(1)
Spectacle Ponds	CH	393	1984	ALSC	761.8	7.86	91.6	1984	ALSC	GS(336), BB(111)
Unnamed Pond	UH	368								Unknown

Name	W'shed	P#	Most Recent Chemical Survey					Most Recent Biological Survey		
			Year	Source	ANC (ueq/l)	pH	Conductivity (ppm)	Year	Source	Fish Species Present and Number Caught *
Unnamed Pond	CH	387								Unknown
Unnamed Pond	CH	388								Unknown
Unnamed Pond	UH	391								Unknown
Unnamed Pond	UH	393								Unknown
Unnamed Pond	CH	401	1984	ALSC	3.7	5.17	21	1984	ALSC	GS(189), ST(2)
Unnamed Pond	CH	408								Unknown
Unnamed Pond	UH	550								Unknown
Unnamed Pond	CH	5260								Unknown
Unnamed Pond	CH	5292								Unknown
Unnamed Pond	CH	5297								Unknown
Unnamed Pond	CH	5303								Unknown
Unnamed Pond	CH	5304								Unknown
Unnamed Pond	CH	5305								Unknown
Unnamed Pond	CH	5306								Unknown
Unnamed Pond	CH	5339								Unknown
Unnamed **Pond**	UH	5390								Unknown
Unnamed Pond	UH	5394								Unknown
Unnamed Pond	UH	5395								Unknown
Unnamed Pond	UH	5396								Unknown
Upper Black Mtn Pond	CH	373	1984	ALSC	56	6.54	23.2	1984	ALSC	FhM(78), ST(17)
Upper Spectacle Pond	CH	409	1992	DEC	64.4	6.84	25.9	1992	DEC	GS(156), BB(12), PKS(92)
Wolf Pond	CH	389	1954	DEC		6.6		1954	DEC	BB

* Fish species caught by various gear (Entries without fish indicate fish species thought to be present. No biological survey conducted.)
** 150-foot Swedish gillnets
*** 1992

LLS Landlocked Salmon	BT Brown trout	KOK Kokanee Salmon	NP Northern pike	RT Rainbow trout	Unknown - No biological survey
BND Blacknose dace	CC Creek chub	LmB Largemouth bass	PKL Chain pickerel	RSM Rainbow smelt	No fish - No fish captured during survey
BB Brown Bullhead	CRP Black crappie	LND Longnose dace	PD Pearl dace	SmB Smallmouth bass	
BK Banded killifish	CS Common shiner	LT Lake trout	PkS Pumpkinseed	ST Brook trout	
BnM Bluntnose minnow	FhM Fathead minnow	CM Central mudminnow	RB Rock bass	TgrT Tiger trout	
BS Bridle Shiner	GS Golden shiner	NRD Northern redbelly dace	RbS Redbreast sunfish	WS White Sucker	

APPENDIX V: **Trail Classification**

TRAIL CLASSIFICATION SYSTEM - LAKE GEORGE WILD FOREST						
TITLE	**EXAMPLE**	**MARKING**	**TREAD**	**BARRIERS**	**USE LEVEL**	**ACCEPTABLE MAINTENANCE**
I. Unmarked Route	Spruce Mtn. herd path; Pilot Knob trail	none	Intermittently apparent, relatively undisturbed organic soil	Natural obstructions present, logs, water courses	Occasional	None
II. Path	Fisherman's trails of HRSMA	Intermittent	Intermittently apparent, compaction of duff, mineral soils occasionally exposed	Same as unmarked route	Low, varies by location	Intermittent marking with consideration given to appropriate layout based on drainage. Occasional barrier removal only to define appropriate route
III. Primitive	Little Jabe Pond Trail	Trail markers, sign at junction with secondary or other upper level trail	Apparent, soil compaction evident	Limited natural obstructions (logs and river fords)	Lo	Drainage (native materials where necessary to minimize erosion, blowdown removed 2-3 years, brushing as necessary to define trail (every 5-10 years). Bridges only to protect resource (max - 2 log width). Ladders only to protect exceptionally steep sections. Tread 14" -18", clear: 3' wide, 3' high

TITLE	EXAMPLE	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
IV. Secondary	Deer Leap Trail	Markers, Signs with basic information	Likely worn and possibly quite eroded. Rocks exposed. Little or no duff remaining	Up to one year's accumulated blowdwn, Small streams.	Moderate	Drainage where needed to halt erosion and limit potential erosion (using native materials). Tread hardening with native materials where drainage proves to be insufficient to control erosion. Remove blowdown annually . Brush to maintain trail corridor. Higher use may warrant greater use of bridges (2-3 logs wide) for resource protection. Ladders used only on exceptionally steep rock faces. Tread 18"-24". Clear 4' wide, 3' high.
V. Trunk Trail or Primary	Clay Meadows to Fifth Peak Trail	Markers Signed with more information and warnings.	Wider tread, worn and very evident, rock exposed, possibly very eroded.	Obstructions only rarely, small streams	High	Same as Above; plus: Regular blowdown removal on designated ski trails, Non-native materials as last resort, Extensive tread hardening when needed. Streams bridged (2-4 logs wide) difficult to cross during high water. Priority given to stream crossings below concentrations of designated camping. Actual turn piking limited to 2% of trail length. Tread 18" 26", clear 6' wide, 8' high.

TITLE	EXAMPLE	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
VI. Front Country	Warren County Canoe Access Trails	Heavily marked. Detailed interpretive signing.	Groomed	None	Very High	This is to be implemented with 500' of wilderness boundary: Extensive Grooming, Some Paving, Bark Chips, Handicapped Accessible
VII. Horse Trail	Crosssett Pond Trail	Marked as Trunk or Secondary	Wide Tread. Must be rather smooth.	Same as trunk trail.	Moderate to High.	Same as trunk trail, except use techniques appropriate for horses. Bridges constructed 6' minimum width with kick rails, non-native dimensional materials preferred. Tread - 2'-4' wide, clear 8' wide, 10' wide
VIII. Ski Trail	Warren County Canoe Access Trails	Marked high. Special markers. Sign at all junctions with hiking trails.	Duff remains. Discourage summer use.	Practically none due to hazards	High	Drainage: Provide drainage using native materials to protect resource, focus on removal of obstructions. Maintenance should be low profile. Tread determined by clearing 6' (should be slightly wider at turns and steep sections).
Snowmobile Trails Class A	Major Travel Routes	Marked High	Groomed (width 8', 12' on corners)	None	Moderate to High	Blowdown removal (annual).Trail brushing. Erosion control structures (box culverts, etc.) Trail hardening (corduroy). Bridges Trail Rehabilitation. Grooming permitted

TITLE	EXAMPLE	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
Snowmobile Trails Class B	Routes Other Than Major Travel Routes	Marked High	Groomed (width 8')	None	Low to Medium	Blowdown removal (annual). Trail brushing. Erosion control structures (box culverts, etc.) Trail hardening (corduroy). Bridges, Trail Rehabilitation. No trail grooming
Mountain Bike Trails: According to International Mountain Biking Standards		Marked Frequently and NO BIKING signs posted on adjoining trails not specified for bike use	New trails to maximum of 4' cleared width. Tread width less than 18" on a rolling grade	None	Moderate	Remove vegetation at root level, texture the tread, keep trails below 2000 feet, use existing roads and trails where possible, blowdown removal annually, trail brushing.

APPENDIX VI: **Mountain Bike Trail Standards**

MOUNTAIN BIKE TRAIL STANDARDS

AND GENERAL GUIDELINES

According to

International Mountain Biking Association

- Look for and identify control points (i.e wetlands, rock outcrops, scenic vistas).
- Avoid sensitive areas; wetlands and wherever water collects.
- Use existing roadways where possible that do not exceed grades of 10%.
- Clear new trails to a maximum width of four feet to establish a single track route.
- Keep tread width less than 18" along a rolling grade.
- Texture the tread - this is the act of placing natural features, such small rocks, logs in the trail to help control speed and retard erosion.
- Remove vegetation at the root level - not at ground level.
- Keep routes close to the contour and avoid fall lines where water is likely to flow downhill.
- On side slopes, following the contour, cut full benches to construct the tread. Outsloping in this manner helps to remove water from the trail. Vegetate backslopes.
- Bench cuts on slide slopes should be cut to a depth of the mineral soil.
- Build flow into the trail with open and flowing designs with broad sweeping turns.
- Streams should be crossed at ninety-degree angles preferably across rock or gravel.
- Bridges may be used where steep banks prevent normal stream crossings. The latter may require an APA Wetlands Permit.
- Do not construct skid berms or extensive banked turns that may accelerate erosion.
- Avoid acute, sharp angle turns.
- Plan trails for beginners to intermediate levels of riders.
- Maintain an overall grade of 10% or less.
- Allow short changes in grade to avoid obstacles.
- Design grade dips to break up long, straight linear sections, and to help divert runoff from the tread.
- Monitor and inspect all trails semi-annually. Address water problems immediately.

APPENDIX VII: **Proposed Parking Lot Details**

Proposed Parking Lot Details

Subject to Adirondack Park Agency Review

Hutton Square Road(Town of Putnam)	
Coordinates:	N 43 45 55.00, 73 22 30.75
Cleared Dimensions:	40' by 20', 899 sq. ft.
Capacity:	3 Vehicles
Grade and Fill:	40 cubic yards. Coarse gravel with fines on top
Description:	Roadside pull-off north of road
Trees to be Removed:	0

Route 3(Town of Putnam)	
Coordinates:	N 43 43 50.65, W 73 22 54.31
Cleared Dimensions:	40' by 20', 899 sq. ft.
Capacity:	3 Vehicles
Grade and Fill:	40 cubic yards. Coarse gravel with fines on top
Description:	Roadside pull-off north of road
Trees to be removed:	0

Route 9N Northwest Bay Tract Trailhead	
Coordinates:	N 43 36 53.43, W -73 37 20.40
Cleared Dimensions:	150' by 50', 7,500 sq. ft.
Capacity:	8 Vehicles
Grade and Fill:	40 cubic yards. Coarse gravel with fines on top

Description:	Driveway off Route 9N to parking area. Existing area has drainage and grading problems. Area needs to have better drainage structures installed and be leveled with gravel to facilitate parking of automobiles.
Trees to be removed:	0

Palmer Pond Parking Lot	
Coordinates:	N 43 39 10.11, W -73 52 32.23
Cleared Dimensions	60' by 45', 2,700 sq. ft.
Capacity:	8 including 1 Reserved Accessible
Grade and Fill:	Cut / fill material on site plus gravel
Description:	Existing lot odd shaped with difficult parking. Stream borders west side of parking lot. Construction will better define corners of lot to the east allowing increased parking capacity, accessible parking and easier parking.
Trees to be removed:	12 trees as follows: 4" balsam fir, 4" white pine, 5" white pine, 6" red oak, 6" red maple, 6" red maple, 6" white pine, 7" white ash, 8" white pine, 10" red maple, 10" balsam fir, 10" white pine.

APPENDIX VIII: **Campsite Monitoring Form**

MONITORING FORM A

1)Old Site Number:_____ 1a) New Site Number_____

2) Inventoried By:_____ 3) Date:____/____/____

INVENTORY PARAMETERS

4) Substrate of site area: (B=bedrock C=cobble S=sand O=soil) _____
5) Number of Other Recreational Sites Visible: _____
6) Fire Ring Present:(y or n) _____
Construction:(stone or metal) _____
Condition: (1=good, 2=poor, 3=replace) _____
7) Privy Present:(y or n) _____
Condition: (1= good, 2=poor, 3=replace) _____
8) Picnic Table Present: (y or n) _____
Condition: (1=good, 2=poor, 3=replace) _____
9) Tree Canopy Cover:(1=0-25%,2=26-50%,3=51-75%,4=76-100%) _____

IMPACT PARAMETERS (Begin with Site Boundary Determination)

10) Condition Class: (3,4 or 5) _____
11) Vegetative Ground Cover Onsite:(Use categories below) _____
(1=0-5%, 2=6-25%, 4=51-75% 5=76-95%, 6=96-100%)
12) Vegetative Ground Cover Offsite:(Use categories above) _____
13) Soil exposure: (use categories above) _____
14) Tree Damage: None/Slight____, Moderate____, Severe_____
15) Root Exposure: None/Slight____, Moderate_____, Severe_____
16) Number of Tree Stumps: _____
17) Number of Trails: _____
18) Number of Fire Sites: _____
19) Litter/Trash: (N=None, S=Some, M=Much) _____

20) Human Waste: (N=none, S=Some, M=Much)_____

21)Comments/Recommendations:_____
_____

22) Take Center point and Site Photographs:

Site Center point References

1)
2)
3)
4)

Satellite Site Dimensions

Island Site Dimensions

Site area from Program: _____
+Satellite Area _____
-Island Area _____=
Total Site Area _____(sq ft)

Transect Data

AzimuthDistance (ft)

1)
2)
3)
4)
5)
6)
7)

8)
9)
10)
11)
12)
13)
14)
15)
16)
17)
18)
19)
20)
21)
22)
23)
24)
25)

MONITORING FORM B

1)Old Site Number:_____ 1a) New Site Number:_____

2)Fire Ring Present:_____ Condition:_____.

3) Privy Present:_____ Condition:_____

4) Picnic Table Present:_____ Condition:_____

5) Condition Class (1 or 2)_____ Site Size:_____(ft^2)

DESIGNATED CAMPSITE MONITORING MANUAL

DESCRIPTION OF PROCEDURES

For the purpose of this manual, designated campsites are defined as those areas either designated by the Department with a yellow DEC designated campsite marker, or shown on an area brochure. In areas with multiple sites there may not always be undisturbed areas separating sites, and an arbitrary decision may be necessary to define separate sites. For each site, monitoring begins with an assessment of Condition Class:

CONDITION CLASS DEFINITIONS

Class 1: Recreation site barely distinguishable; slight loss of vegetation cover and/ or minimal disturbance of organic litter.

Class 2: Recreation site obvious; vegetation cover lost and/ or organic litter pulverized in primary use area.

Class 3: Vegetation cover lost and/ or organic litter pulverized on much of the site, some bare soil exposed in primary use areas.

Class 4: Nearly complete or total loss of vegetation cover and organic litter, bare soil widespread.

Class 5: Soil erosion obvious, as indicated by exposed tree roots and rocks and/or gullying.

For sites rated Condition Class 1 or 2, complete Form B; for sites rated Class 3, 4 or 5, complete Form A. Form B is an abbreviated version of Form A and greatly reduces the amount of field time. The rationale for this approach is that detailed information on lightly impacted sites is not as critical to management.

During subsequent surveys an attempt should be made to relocate and reassess all sites from the proceeding survey. Former designated sites that have been closed, and are still being used, should be noted as illegal sites. Always note information regarding the history of site use under the comment parameter.

Materials:

- Compass, peephole or mirror type (not corrected for declination)
- GPS data recorder (GPS point will be taken at each sites center point)
- Tape measure, 100-foot (marked in tenths)
- Flagged wire pins (25 min), one large steel center point stake.
- Digital camera
- Clipboard, pencil, field forms, field procedures
- Steel nails (5 inch)

Form A Procedures

Inventory Parameters

1. Site Number: All sites will be assigned an old site number as well as a new site number. Old site numbers will use the existing site numbering system, while new site numbers will be assigned following completion of the mapping of all sites.

2. Inventoried By: List the names of field personnel involved in data collection.

3. Date: Month, day and year the site was evaluated (e.g., June 12, 1999 = 06/12/99)

4. Substrate of site area: Record the predominant substrate for the area of human disturbance for each site using the coded categories below.

B=bedrock - shelf bedrock

C=cobble - includes gravel size stone and up

S=sand - includes sandy soils that do not form a surface crust in trampled areas

O=soil - includes clays to loamy sands

5. Number of other sites visible: Record the number of other campsites, which if occupied, would be visible from this site.

6. Fire ring : if present or not (y or n)

a. Construction: stone/masonry or metal

b. Condition: good=intact, functional for cooking

Poor= missing stones, broken , not functional for cooking but will contain open fire.

7. Privy: if present or not (y or n)

a. Condition: good= functional, has door, wood not deteriorated(would you use it?)

Poor=nonfunctional, door missing, wood rotten,

8. Picnic table: if present or not (y or n)

a. Condition: good= usable, no broken boards, table is solid

Poor=not usable, broken/rotten boards, not sturdy

9. Tree canopy cover: Estimate the percentage of tree canopy cover directly over the campsite.

1=0-25%, 2=26-50%, 3=51-75%, 4=76-100%

Impact Parameters

The first step is to establish the sites boundaries and measure its size. The following procedures describe use of the variable radial transect method for determining the sizes of recreational sites. This is accomplished by measuring the lengths of linear transects from a permanently defined center point to the recreation site boundary.

Step 1. Identify Recreation Site Boundaries and Flag Transect Endpoints. Walk the recreation site boundary and place flagged wire pins at locations which, when connected with straight lines, will define a polygon whose area approximates the recreation site area. Use as few pins as necessary, typical sites can be adequately flagged with 10-15 pins. Look both directions along site boundaries as you place the flags and try to balance areas of the site that fall outside the lines with offsite(undisturbed) areas that fall inside the lines. Pins do not have to be placed on the site boundaries, as demonstrated in the diagram following these procedures. Project site boundaries straight across areas where trails enter the site. Identify site boundaries by pronounced changes in vegetation cover, vegetation height/disturbance, vegetation composition, surface organic litter, and topography. Many sites with dense forest over stories will have very little vegetation and it will be necessary to identify boundaries by examining changes in organic litter, i.e. leaves that are untrampled and intact versus leaves that are pulverized or absent. In defining the site boundaries, be careful to include only those areas that appear to have been disturbed from human trampling. Natural factors such as dense shade and flooding can create areas lacking vegetative cover. Do not include these areas if they appear “natural” to you. When in doubt, it may also be helpful to speculate on which areas typical visitors might use based on factors such as slope or rockiness.

Step 2. Select and Reference Site Center point. Select a site center point that is preferably a) visible from all site boundary pins, b) easily referenced by distinctive permanent features such as larger trees or boulders, and c) approximately 5 feet from a steel fire ring if present. Embed a 5 inch nail in the soil at the center point location so that the head is 3-4 inches below the surface. During future sight assessments a magnetic pin locator can be used to locate the center point. Next, insert a large steel stake at the center point and reference it to at least three features. Try to select reference features in three opposing directions, as this will enable future workers to triangulate the center point location. For each feature, take a compass azimuth reading and measure the distance (nearest 1/10 foot) from the center point to the center of trees or the highest point of boulders. Also measure the approximate diameter of reference trees at 4.5 feet above ground (dbh). Be extremely careful in taking these azimuths and measurements, as they are critical to relocating the center point in the future. Record this information on the back of the form.

Take a digital photograph that clearly shows the center point location in relation to nearby trees or other reference features, such as the fire ring, trees or boulders. Record a photo description, such as” center point location site 23 “, in the photo log.

Options: Some sites may lack the necessary permanent reference features enabling the center point to be accurately relocated. If only one or two permanent reference features are available, use these and take additional photographs from several angles. If permanent features are unavailable, simply proceed with the remaining steps without permanently referencing the center point. This option will introduce more error in

comparisons with future measurements, particularly if the site boundaries are not pronounced. Note your actions regarding use of these options in the comment section.

Step 3. Record Transect Azimuths and Lengths. Standing directly over the center point, identify and record the compass bearing (azimuth) of each site boundary pin working in a clockwise direction, starting with the first pin clockwise of north. Be careful not to miss any pins hidden behind vegetation or trees. Be extremely careful in identifying the correct compass bearings to these pins as error in these bearings will bias current and future measurements of site size. Next, anchor the end of your tape to the center point stake, measure and record the length of each transect (nearest 1/10 foot), starting with the same boundary pin and in the same clockwise direction as before. Be absolutely certain that the appropriate pin distances are recorded adjacent to their respective compass bearing.

Step 4. Measure island and satellite areas. Identify any undisturbed islands of vegetation inside the site boundaries (often due to the clumping of trees and shrubs) and disturbed satellite use areas outside the site boundaries (often due to tent sites or cooking sites). Use site boundary definitions for determining the boundaries of these areas. Use the geographic figure method to determine the areas of these islands and satellites (refer to the diagrams following these procedures). This method involves superimposing one or more imaginary geometric figures (rectangles, circles or right triangles) on island or satellite boundaries and measuring appropriate dimensions to calculate their areas. Record the types of figures used and their dimensions on the back of the form; the size of these areas should be computed in the office using a calculator.

Site Remeasurement: During site remeasurement use the data from the last monitoring period to reestablish the center point and all site boundary pins. If steel nails were embedded in the ground, a magnetic pin locator can assist in this process. Place flagged wire pins at each transect boundary point. Boundary locations based on the following procedures:

- Keep the same transect length if that length still seems appropriate, i.e., there is no compelling reason to alter the initial boundary determination.
- Record a new transect length if the prior length is inappropriate, i.e., there is compelling evidence that the present boundary does not coincide with the pin and the pin should be relocated either closer to or further away from the center point along the prescribed compass bearing. Use different colored flags to distinguish these current boundary points from the former boundaries.

- Repeat steps 1 and 3 from above to establish additional transects where necessary to accommodate any changes in the shape of recreation site boundaries (diagram below). Also repeat step 4.
- Leave all pins in place until all procedures are completed. Pins identifying the former site boundaries are necessary for tree damage and root exposure assessments.

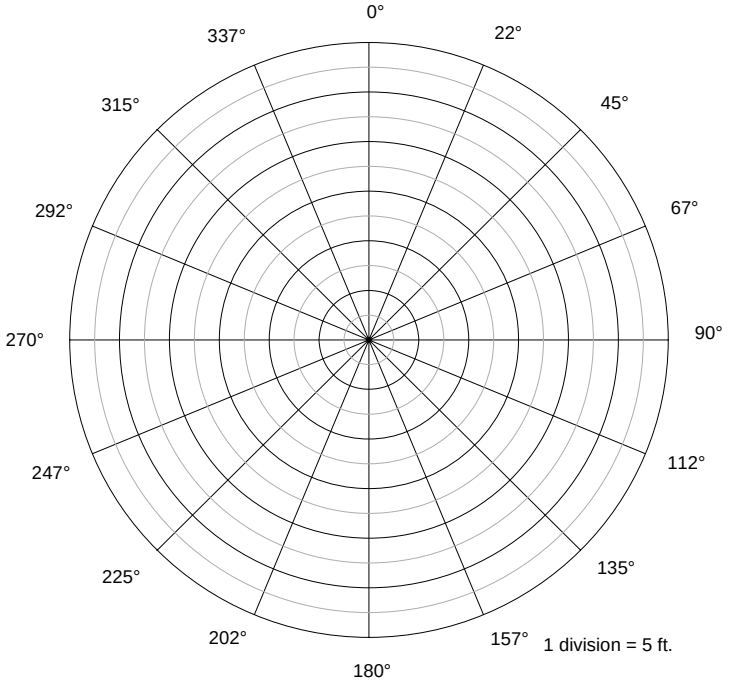
These additional procedures are designed to eliminate much of the measurement error associated with different individuals making subjective judgements on those sites or portions of sites where boundaries are not pronounced. These procedures may only be used for sites whose center points can be relocated.

Site Number / Site Name	_____/_____

Compass Bearing:

	0	22	45	67	90	112	135	157	180	202	225	247	270	292	315	337
X																
O																

Campsite Map:



10. Condition class: Record the condition class you assessed for the site using the categories described earlier.

11. Vegetative ground cover on site: An estimate of the percentage of live non-woody vegetative ground cover (including herbs, grasses, and mosses and excluding tree seedlings, saplings, and shrubs) within the flagged campsite boundary using the coded categories listed next. Include any disturbed satellite use areas and exclude any undisturbed Island areas of vegetation. For this and the following two parameters, it is often helpful to narrow your decision to two categories and concentrate on the boundary that separates them. For example, if the vegetation cover is either category 2 (6-25%) or category 3 (26-50%), you can simplify your decision by focusing on whether vegetative cover is greater than 25%.

1=0-5%, 2=6-25%, 3=26-50%, 4=51-75%, 5=76-95%,6=96-100%

12. Vegetative ground cover offsite: An estimate of the percentage of vegetative ground cover in an adjacent but largely undisturbed "control" area. Use the codes and categories listed earlier. The control site should be similar to the campsite in slope, tree canopy cover (amount of sunlight penetrating to the forest floor), and other environmental conditions. The intent is to locate an area that would closely resemble the campsite area had the site never been used. In instances where you cannot decide between two categories, select the category with less vegetative cover. The rationale for this is simply that, all other factors being equal, the first campers would have selected a site with the least amount of vegetation cover.

13. Soil exposure: An estimate of the percentage of soil exposure, defined as ground with very little or no organic litter (partially decomposed leaf, needle, or twig litter) or vegetation cover, within the campsite boundaries and satellite areas. Dark organic soil, which typically covers lighter colored mineral soil, should be assessed as bare soil. Assessments of soil exposure may be difficult when organic litter becomes highly decomposed and forms a patchwork with areas of bare soil. If patches of organic material are relatively thin and few in number, the entire area should be assessed as bare soil. Otherwise, the patches of organic litter should be mentally combined and excluded from assessments. Code as for vegetative cover.

14. Tree damage: Tally the number of live trees (> 1 in, diameter at 4.5 ft.) Within the campsite boundaries, including trees in undisturbed islands and excluding trees in satellite areas, into one of the rating classes described below. Assessments are restricted to trees within the flagged campsite boundaries in order to ensure consistency with future measurements. Multiple tree stems from the same species that are joined at or above ground level should be counted as one tree when assessing damage to any of its stems. Assess a cut stem on a multiple-stemmed tree as tree damage, not as a stump. Do not count tree stumps as tree damage. Take into account tree size. For example, damage for a small tree would be considerably less in size than damage for a large tree. Omit scars that are clearly not human-caused (e.g., lightning strikes).

During site remeasurement, begin by assessing tree damage on all trees within the site boundaries identified in the last measurement period. Tally the number of trees in areas where the boundary has moved closer to the center point, i.e., former site areas that are not currently judged to be part of the site separately. Place a box around this number. Next, assess tree damage in areas where boundaries have moved further from the center point, i.e. expanded site areas that are newly impacted since the last measurement period. Circle these tallies. These additional procedures are necessary in order to accurately analyze changes

None/Slight- No or slight damage such as broken or cut smaller branches, one nail, or a few superficial trunk scars.

Moderate- Numerous small trunk scars and/or nails or one moderate-sized scar.

Severe- Trunk scars numerous with many that are large and have penetrated to the inner wood; any complete girdling of trees (cut through tree bark all the way around tree).

15. Root exposure: Tally the number of live trees (> 1 in, diameter at 4.5 ft.) Within the campsite boundaries, including trees in undisturbed islands and excluding trees in satellite areas, into one of the rating classes described below. Assessments are restricted to trees within the flagged campsite boundaries in order to ensure consistency with future measurements. Where obvious, omit exposed roots that are clearly not human-caused (e.g., stream/river flooding).

During site remeasurement, begin by assessing root exposure on all trees within the site boundaries identified in the last measurement period. Tally the number of trees in areas where the boundary has moved closer to the center point, i.e., former site areas that are not currently judged to be part of the site separately. Place a box around this number. Next, assess root exposure in areas where boundaries have moved further from the center point, i.e. expanded site areas that are newly impacted since the last measurement period. Circle these tallies. These additional procedures are necessary in order to accurately analyze changes in root exposure over time.

None/Slight- No or slight root exposure such as is typical in adjacent offsite areas.

Moderate- Top half of many major roots exposed more than one foot from base of tree.

Severe- Three-quarters or more of major roots exposed more than one foot from base of tree; soil erosion obvious.

16. Number of tree stumps: A count of the number of tree stumps (> 1 in. Diameter) within the campsite boundaries. Include trees within undisturbed islands and exclude trees in disturbed satellite areas. Do not include cut stems from a multiple-stemmed tree.

During site remeasurement, begin by assessing stumps on all trees within the site boundaries identified in the last measurement period. Tally the number of trees in areas where the boundary has moved closer to the center point, i.e., former site areas that are not currently judged to be part of the site separately. Place a box around this number. Next, assess stumps in areas where boundaries have moved further from the center point, i.e. expanded site areas that are newly impacted since the last measurement period. Circle these tallies. These additional procedures are necessary in order to accurately analyze changes in stumps over time.

17. Number of trails: A count of all trails leading away from the outer campsite boundaries. Do not count extremely faint trails that have untrampled tall herbs present in their tread or trails leading out to any satellite sites.

18. Number of fire sites: A count of each fire site within campsite boundaries, including satellite areas. Include old inactive fire sites as exhibited by blackened rocks, charcoal, or ashes. Do not include areas where ashes or charcoal have been dumped. However, if it is not clear whether or not a fire was built on the site, always count questionable sites that are within site boundaries and exclude those that are outside site boundaries.

19. Litter/trash: Evaluate the amount of litter/trash on the site: n=None or less than a handful, S=some-a handful up to enough to fill a 2-1/2-gallon bucket, M=Much- more than a 2-1/2-gallon bucket.

20. Human waste: Follow all trails connected to the site to conduct a quick search of likely "toilet" areas, typically areas just out of sight of the campsite. Count the number of individual human waste sites, defined as separate locations exhibiting toilet paper and/or human feces. The intent is to identify the extent to which improperly disposed human feces is a problem. Use the following code categories: N=None, S=Some-1-3 sites, M=Much-4 or more sites evident.

21. Comments/Recommendations: An informal list of comments concerning the site: note any assessments you felt were particularly difficult or subjective, problems with monitoring procedures or their application to this particular campsite, or any other comment.

22. Campsite photograph: Select a good vantage point for viewing the entire campsite, preferably one of the site boundary pins, and take a digital picture of the campsite. Note the azimuth and distance from the center point to the photo point and record on the form. The intent is to obtain a photograph that includes as much of the site as possible to provide a photographic record of site condition. The photo will also allow future workers to make a positive identification of the site. Label disks with date, and site number.

23. Total campsite area: Calculate the campsite area based on the recorded transect measurements. Add the area of any satellite sites and subtract the area of any undisturbed islands to obtain the Total Campsite Area. Record campsite area to nearest square foot (ft^2).

Form B Procedures

Refer to the procedures described earlier, all procedures are the same with the exception of campsite size. Measure campsite size using the geometric figure method. Typically, class 1 and 2 campsites are quite small in size and this method should be both efficient and accurate. Be sure to record on form B the types of figures used (rectangle, square, triangles...etc.) And all necessary dimensions. Record campsite area to nearest square foot (ft^2).

APPENDIX IX: **Snowmobile Plan for the Adirondack Park - Vision and Goals**

I. VISION

To develop and maintain an integrated snowmobile trail system on public and increasingly on private land in the Adirondack Park that will provide snowmobilers with an experience that is consistent with the spirit and letter of Article XIV, Section 1 of the New York State Constitution, is respectful of the rights and interests of private landowners, and strives to enhance the vitality of the Park's citizens by providing trail linkages between local communities within the Park.

II. GOALS

1. Protect natural and cultural resources and the wild forest character of public lands in the Park (as envisioned by the Constitution, APSLMP and appropriate laws, rules, regulations) by:

- considering underutilized trails for abandonment;
- utilizing to the maximum extent possible routes on the periphery of Wild Forest Units or parallel and near to travel/transportation corridors for new trail development and, where appropriate, re-designating trails in the interior of Wild Forest Units or in the vicinity of private in-holdings for non-motorized use only;
- focusing on opportunities to route trails on non-state lands wherever possible and encouraging long-term commitment of corridor trail systems on private lands through cooperative agreements with private landowners consistent with the provisions of the OSP;
- establishing a clear set of standards for snowmobile trails and snowmobile related activities on public lands;
- increasing law enforcement resources at all levels to address trespass and deter illegal activity on the trail system and in surrounding public and private areas; and
- providing intelligent and resource protective trail system planning in an overall way rather than dealing with each trail segment individually.

2. Providing a safe, enjoyable snowmobile experience by:

- avoiding unsafe trail conditions;
- minimizing dependency on lake and road crossings;
- encouraging partnerships with the private sector, state and local governments that will provide, maintain and operate snowmobile trails; and
- establishing a clear set of standards for snowmobile trails and snowmobile related activities on public lands.

3. Promoting tourism and economic opportunities for local communities by:

- connecting communities and major points of interest;
- connecting trail systems from outside of the Park;
- connecting to necessary support services (gas, food, lodging, etc.); and
- identifying important snowmobile trail connections.

APPENDIX X: **Known Archeological Sites in the Lake George Wild Forest Unit**

Number	Quad	Reporter	Name	Period: Phase	Description
1515	BL	Barg, Kingsley		MW: Kipp Island	YMCA Campground, 9 loci, Jack's Reef Corner-Notched Point
5078	BL	Parker		PC	Camp
5810	BL	Wellman		PC	Debitage, fire cracked rock, calcined bone
6066	BL	Weinman, P. and T.	Finley	MW: Burnt Hill	
8388	BL	Funk	Knapp		
9086	BL	Quinlan		PC	Side-notched knife
A113-01-000059	BL	Peckham	Cadet Shipwreck	H	Highly intact sunken steamboat, possibly NRE
A113-01-0001	BL	Henke, McCann	Finley Site	MLA, W	
A113-01-0002	BL	HAA, Inc.	NYSM 5078	PC	Polished slate objects
A113-01-0003	BL	HAA, Inc.	NYSM 5810	PC	Debitage
A113-01-0016	BL	McCann, Ross, Bonafede	Indian Brook	LA, MW	
A113-01-0017	BL	McCann, Ross, Bonafede	Wilson Site	A, MLW	Camps
A113-01-0018	BL	McCann, Ross, Bonafede	Walker Point	LA, MLW	Camps
A113-01-0019	BL	McCann, Ross, Bonafede	Green Island Site		
A113-01-0020	BL	McCann, Ross, Bonafede	Cross roads Site		
A113-01-0021	BL	McCann, Ross, Bonafede	Fish Point Cove	PC	Flakes
A113-01-0022	BL	McCann, Ross, Bonafede	Hiawatha Island Site	PC	
A113-01-0023	BL	McCann, Ross, Bonafede	Cotton Point		
A113-01-0024	BL	McCann, Ross, Bonafede	Cotton Point	PC	Flakes in two loci
A113-01-0025	BL	McCann, Ross, Bonafede	Blessed Sacrament		
A113-01-0026	BL	McCann	Green Island South	PC	
A113-01-0027	BL	Podhurst	Mrs. Waldorf 2 House	H	
A113-01-0028	BL	Podhurst	R. Wells House	H	
A113-01-0029	BL	SUNY Albany	W. Waldorf	H	
A113-01-0030	BL	Tannenbaum			Originally reported by Parker
A113-01-0032	BL	McCann	Bolton Landing Site	PC	
A115-05-0011	BL	Tannenbaum		MW: Kipp Island	See NYSM 1515
5080	BL, T, P, SB	Parker		PC	Traces of Occupation
7432	C	Leary			Spearhead, pottery, charred bone, hearth
9395	C	Conklin, Coleman			Rock piles-probably just the result of historic land clearing
A113-03-000032	C	Werner	Foundation 1	H	Late 19th or early 20th century foundation

A113-03-000033	C	Werner	Foundation 2	H	Late 19th or early 20th century foundation
A113-03-000034	C	Werner	Foundation 3	H	Late 19th or early 20th century foundation
A113-03-000035	C	Werner	Foundation 4	H	Late 19th or early 20th century foundation
A113-03-000036	C	Werner	Foundation 5	H	Late 19th or early 20th century foundation
A113-03-000037	C	Werner	Foundation 6	H	Late 19th or early 20th century foundation
A113-03-0001	C		Indian Camping Grounds	2000 years old	Points and pottery
1355	LG	Ritchie	Assembly Point		Site is in the water west of the point
1356	LG	Weinman, P. and T., Ritchie	Knox		MW: Burnt Hill
1357	LG	Weinman, P. and T.	Weinman	A, W: Burnt Hill	Intensive Middle Woodland, traces of Early and Late Woodland
1358	LG	Weinman, P. and T.	Denham	MW: Burnt Hill	
1359	LG	Hammer, Snow	Harris, Arthur, NYSM 5076	A: Bifurcate	Camps 550+/-200 BC
5075	LG	Parker			Village
5076	LG	Parker	Harrisena	LA: Laurentian	Extensive, numerous implements, polished axes, slate knives, bannerstones, gorgets, scrapers, also NYSM Site 1359
5077	LG	Parker		W	Algonkian pottery and several large spears on Fort William Henry property
5081	LG	Parker		PC	Burial
5082	LG	Parker		PC	Traces of Occupation
5083	LG	Parker		PC	Camp
5805	LG	Cornell		PC	Flake
5806	LG	Cornell		PC	Flake
6587	LG				No Information
7096	LG	Ritchie			
7880	LG	Parker		PC	Camp
8100	LG	Desjardins		LA	Knife edgewear on Genesee point
8181	LG	Weinman, T	Joshua Rock	LA, MW: Vossburg, Brewerton, Sylvan Beach	Otter Creek, Brewerton, Sylvan Beach point and Middle Woodland materials in eroded context
8460	LG	Clarke	Dunham's Bay Vicinity		Burial, shell and copper beads
8653	LG	Weinman, P and T	Pickle Hill	LA, 1760 BC	Hearths, Normanskill points, scrapers, possible structure stain
8887	LG	Baker		MA,MLW: Bifurcate, Fox Creek	Bifurcate points, pottery, and debitage
9024	LG	Merrill		PC	Points, flakes
9240	LG	Ellsworth		PC	Point in stream
9373	LG	Ritchie			

9375	LG	Weinman	South Long Island Quarry	PC	Workshop debris
10118	LG	Thompson	Butler Pond	W: Owasco	Corded body sherd, stemmed point, pestle, debitage on surface
10119	LG	Thompson		MLW: Levanna	Camp, hearth, 3 Levanna points, 1 stemmed point, 4 scrapers, debitage on surface
A113-01-0007	LG	HAA, Inc.	NYSM 5075	PC	Village
A113-01-0008	LG	HAA, Inc.	Long Island Site (NYSM 5806)	PC	Chert flake
A113-01-0033	LG	McCann	Long Island	PC	Knife, scrapers, debitage
A113-01-0034	LG	McCann	Canoe Island	PC	Chert flakes
A113-02-000018	LG	Starbuck	Military Encampment	1700s	Axes, buttons, flints and other gun parts, coins, cannon and musket balls from dozens of loci within a 5-acre site, site is NRE
A113-02-000031	LG	Henke	Bloody Pond Massacre Site	1700s	
A113-02-000032	LG	Huey	British Advanced Guard and Dock Site	1758	
A113-02-000033	LG	Huey	Fortified British Camp Site	1758	Earthworks remain from Abercrombie's camp
A113-02-000034	LG	Zarzynski	Delaware and Hudson Marine Railway	18 and 1900s	Submerged railroad including ties, metal rail, and marble ballast
A113-02-000035	LG	Nelson	Fort George Prehistoric Site	PC	Chert cores, flakes, and fire cracked rock
A113-02-0001	LG	Henke	Denham Site	LA, MW	
A113-02-0002	LG	Huey	Fort Gage	1757	Earthworks
A113-02-0004	LG	Allen	Prospect Mountain Inclined Railroad Bed	1895-6	Railroad to summit
A113-02-0005	LG	Allen	Fort George	Late 1700s	Restored earth wall surrounding some original stone features
A113-02-0006	LG	HAA, Inc.	NYSM 5082	PC	Traces of occupation
A113-02-0007	LG	HAA, Inc.	NYSM 5083		
A113-02-0008	LG	HAA, Inc.	Diamond Island Battlefield	1777	Artifacts remain submerged from the last battle on Lake George
A113-02-0010	LG	McCann	Diamond Island	PC	Flakes
A113-02-0011	LG	McCann, Ross, Bonafede	Cooper Point Beach Site		
A113-02-0012	LG	McCann	Echo Lake Site	PC	Submerged camps, triangular point and retouched flake
A113-02-0013	LG	Podhurst	JH Bennet House	H	
A113-02-0014	LG	McCann	Plum Pt.	PC	Debitage
A113-02-0015	LG	McCann	Octagon Structure	H	Pump?
A113-08-000107	LG	Raemsch	Split Creek Site	PC	1 point, 3 utilized flakes, 239 flakes, 4 fire-cracked rock
A113-08-000108	LG	Raemsch	Secluded Barn Site	L1800s	Foundation
A113-08-0005	LG	McCann	Pickle Hill Site	LA: River	
A113-08-0007	LG	Henke/McCann	Knox Site	MA: MW-Burnt Hill, Vossburg	
A113-08-0008	LG	Henke	Weinman-Cary Site		

A113-08-0009	LG	Henke	Arthur Harris Site	PC	
A113-08-0010	LG	Hagerty	Site at Assembly Point	MLW: Vergennes, Sylvan Lake	
A113-08-0024	LG	HAA, Inc.	Speaker Heck Island Site (NYSM 5805)		
A113-08-0025	LG	HAA, Inc.	NYSM 5076	PC	Village, axes, slate knives, bannerstones, gorgets, scrapers
A113-08-0029	LG	Harrisena Site	McCann	EA, MW: Point Peninsula	Camp
A113-08-0049	LG	McCann	Frederick Site	MLW	
A113-08-0050	LG	McCann and Ross	Boucher Site	PC	
A113-08-0051	LG	Podhurst	E. West House	H	
A113-08-0052	LG	McCann	Dunham Site	MLA	Brewerton points and polished slates, the site was destroyed by development
A113-08-0053	LG	McCann	Val Site	MW: Adena Vergennes, Laurentian	Camp destroyed by development
A113-08-0054	LG	McCann	West Site	EA,W: Bifurcate, Laurentian	Site was destroyed
A113-08-0055	LG	McCann	Cleverdale	EW	Small camp
A113-08-0056	LG	McCann	Assembly Point West	PC	Flakes
A113-08-0057	LG	McCann	Speaker Heck Island Site	PC	Chert outcrops (quarries)
A113-08-0058	LG	McCann	Pickle Hill II	LA: Sylvan Lake Complex, River Phase, Normanskill	
A113-08-0060	LG	McCann	Old Trout Pavillion Hotel	1800s, 1900s	
A113-41-000019	LG	Starbuck	NIMO Human Skeleton	PC	Human remains only, no other artifacts
A113-41-000022	LG	DiVirgilio	Fort William Henry Hotel	H	Stone and wood features from the 19th-century hotel
A113-41-0002	LG	HAA, Inc.	Fort William Henry	1750s	National Register Listed: The fort was reconstructed in the early 1950s
A113-41-0007	LG	Hagerby	Montcalm St. Site	H	Trench that connected Montcalm's batteries
A113-41-0009	LG	HAA, Inc.	NYSM 5081	PC	Camp, burial
A113-41-0010	LG	HAA, Inc.	NYSM 5077	L1700s	Pottery, 3 points, flakes, colonial tobacco pipe, lead shot, buttons, buckles
A113-41-0011	LG	Podhurst	Depot for Glenns Falls/ Lake George RR	1800s	
2650	LL	Henke		PC	Multicomponent site
2651	LL	Henke		PC	
2652	LL	Henke		PC	
2653	LL	Henke		LA: Brewerton	Brewerton point
2654	LL	Henke			Burial
5085	LL	Parker		PC	Camp
6901	LL				No Information
6903	LL	Gillette			No Information
9025	LL	Ellsworth		PC	Bifaces, flakes
A013-07-0006	LL	Environmental Archeology	Pulp Mill	1865-	Water wheel and parts of wooden flume survive
A091-08-0002	LL	Environmental Archeology	Summer Camp	1900s	Dry-laid stone foundation, chimney, bricks

A091-09-0003	LL	Environmental Archeology	Rockwell Store	1802-	Dry-laid stone foundation
A091-09-0004	LL	Environmental Archeology	Hadley Post Office	H	Most of foundation destroyed
A091-09-0005	LL	Environmental Archeology	Paper Mill	H	Most of building has been destroyed
A091-09-0006	LL	Environmental Archeology	Grist Mill	1807-1833	Painted by John Wahl in the 1820s
A091-09-0007	LL	Strunk	Hadley RR Station	H	Tracks still used
A091-09-0010	LL	HAA, Inc.	NYSM 2652	PC	
A091-09-0010	LL	Tannenbaum	Lake Luzerne NYSM 2652		
A091-09-0011	LL	HAA, Inc.	Mount Anthony Iron Mine	1843-	Magnetic ore deposit, used by local forges and blacksmiths
A091-09-0012	LL	Podhurst	C. Rockwell House	1800s	
A091-09-0013	LL	Podhurst	Saw Mill	1800s	
A113-07-000016	LL	Collamer and Associates, Inc.	Historic Midden	L1800s, E1900s	Household and farm goods
A113-07-0002	LL	Allen	Tannery Chimney	1889-	Brick chimney
A113-07-0004	LL	Tannenbaum	Lake Luzerne NYSM 2651		
A113-07-0005	LL	Environmental Archeology	Saw Mill	1815-1875	Dam remains
A113-07-0007	LL	Environmental Archeology	Iron Foundry	1830-1875	Dry-laid stone foundation and slag deposits
A113-07-0008	LL	Environmental Archeology	Grist Mill	1830-1888	Submerged dry-laid stone foundation and dam
A113-07-0009	LL	Tannenbaum	Lake Luzerne NYSM 2653	MLA	Brewerton point
A113-07-0010	LL	Environmental Archeology	Wall Street Prehistoric Site	PC	Point, possible in eroded context
A113-07-0011	LL	HAA, Inc.	NYSM 5085	PC	Camp
A113-07-0012	LL	HAA, Inc.	NYSM 2654	PC	Possible burial
A113-07-0013	LL	HAA, Inc.	Multi component Indian Site NYSM 2650	PC	
1344	P	Ritchie	Flat Rock Bay	W	Pottery, bone, 3 incomplete triangular side-notched points, mortar pits on adjacent hills
1349	P	Ritchie			Sandy, open area, copper implements
1350	P	Ritchie	Pulpit Point	EH	French outpost at Pulpit Point, triangular points and trade goods
5086	P	Parker		LW, EH: Mohawk	Camp
5107	P	Parker		PC	Camp
5108	P	Parker		PC	Traces of Occupation
6106	P				Form Missing
A115-03-0067	P	HAA, Inc.	Pulpit Point, NYSM 1350	EH	French outpost with triangular points and trade goods
A115-03-0068	P	HAA, Inc.	NYSM 5106	PC	Traces of occupation
A115-14-0094	P	Putnam Survey Team	Graham Homestead	H	Surface traces of old stone house
A115-14-0117	P	HAA, Inc.	NYSM 5107	PC	Camp
A115-14-0118	P	HAA, Inc.	NYSM 5086	W, H	Mohawk encampment

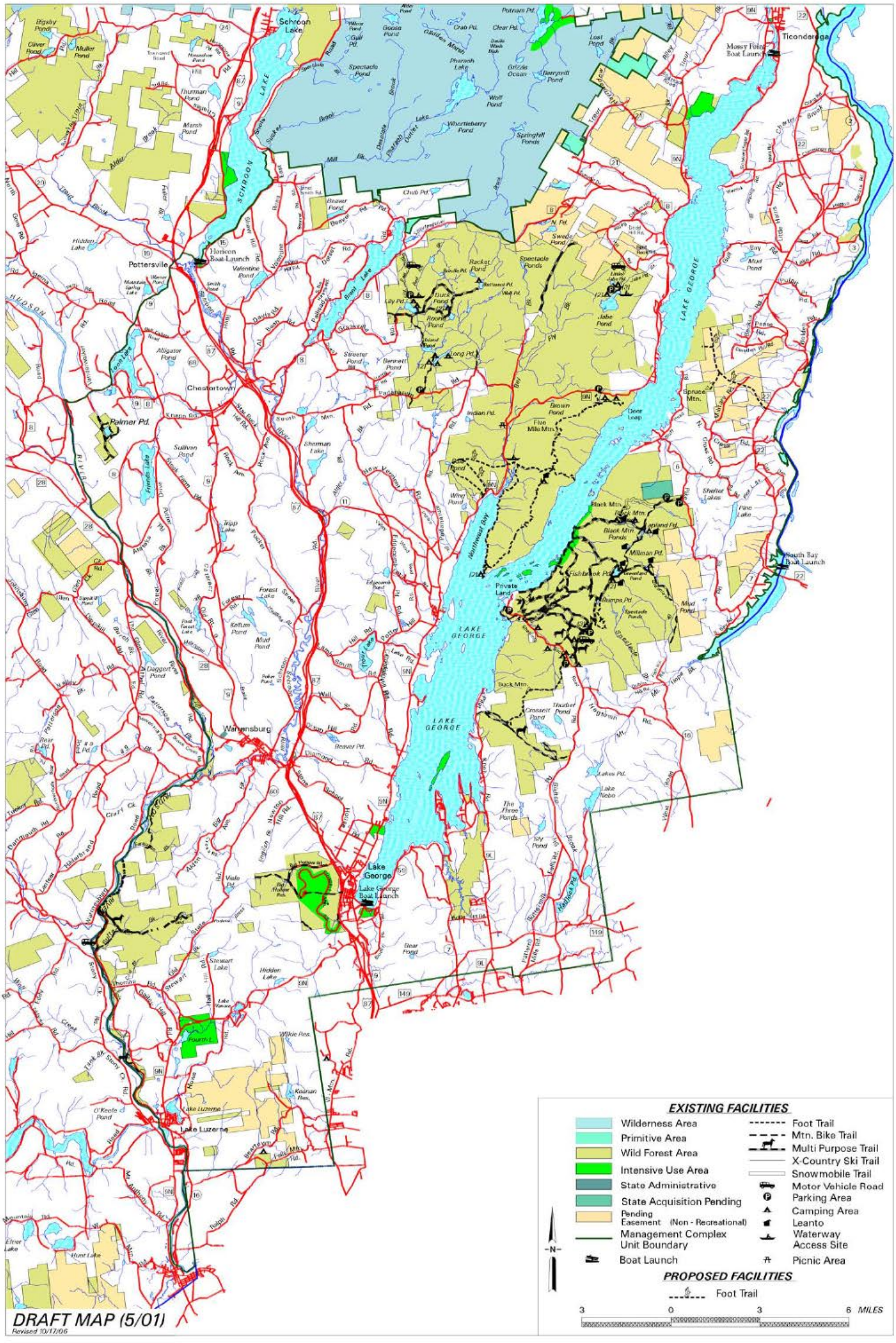
A115-14-0119	P	HAA, Inc.	Harrington Site, NYSM 1349	EH	Contact period, copper implements
A115-14-0120	P	HAA, Inc.	Flat Rock Bay Site, NYSM 1344	W	3 points, pottery, bone, red and yellow jasper, quartz, quartzite, rhyolite, mortar pits on adjacent hills
A115-14-0121	P	HAA, Inc.	NYSM 5108	PC	Traces of occupation
1354	PM				Inconsistent site location maps
A113-08-000109	PM	Haskins	Clements Road Prehistoric Site	LA-EH	
A115-05-0003	PM	New York State Historic Trust	Mount Hope Furnace	1825-60	Visible ruins with intact chimney
A115-05-0010	PM	Buell, Snow	Bacon Pond Sites	A, W	Vosburg, Normanskill, and Levanna points
A115-05-0016	PM	HAA, Inc.	Griswold's Mills Forge	1802-	Forbes & Co. manufactured chain and anchors
A115-05-0017	PM	HAA, Inc.	Potter Iron Mine	1879-	Magnetic ore mine, 75' deep and 30 yards long in 1888
A115-05-0018	PM	HAA, Inc.	Podunk Iron Mine	Late 1800s	Supplied Fort Edward Blast Furnace, run in 1869 by the Fort Ann Hematite and Magnetic Iron Ore Co.
A115-05-0019	PM	HAA, Inc.	West Fort Ann No. 1 (Forge)	1802-	Had 1 fire, 2 hammers, and made anchors, mill cranks, and sleigh shoes
A115-05-0022	PM	Testi	Sly Pond Site	PC	Quartz flakes
A115-15-0020	PM	HAA, Inc.	West Fort Ann No. 2 (Forge)	1827-1858	Had 1 fire, 2 hammers, and made anchors and mill cranks
5079	SB	Parker			
8117	SB	Wellman			Tabular sandstone with retouched edge
10126	SB	Thompson	Burgess Island	PC	1 sidescraper, 1 debitage on surface
10127	SB	Thompson	Nobles Island	PC	1 sidescraper, 4 debitage on surface
A0113-04-0004	SB	HAA, Inc.	Sabbath Day Point Encampment	1757-59	1756 battle site, 1758 Abercrombie's camp, 1759 Amherst's camp
A113-01-0006	SB	HAA, Inc.	Harbor Islands	1757	Site of confrontation between English troops and Indians
A113-04-0003	SB	HAA, Inc.	NYSM 5079	PC	Camp
7519	SL	Gillette			
5110	SR	Parker		PC	Traces of Occupation
5809	SR	Wellman	Northwest Bay Brook	MLW, EH: Burnt Hills, Levanna	Levanna point, 15 sherds, triangular preform, end scraper, biface fragment, deitage, gun flint
5811	SR	Wellman		PC	Debitage
5952	SR	Weinman, P. and T./Funk	Knapp	LA-HU	
6065	SR	Barg	Pilot Knob	MW: Kipp Island	Jack's Reef Point
7806	SR	Weinman, T.	Northwest Bay Brook	MW, EH: Burnt Hills	Camps, French gun flints and submerged burnt hill materials
7820	SR	Ritchie			Cairns
8016	SR	Wellman		PC	Quartzite biface
8096	SR	Hurley-Glowa		W	Pottery, biface fragments, flakes
8403	SR	Wellman		PC	Biface and possible core fragments

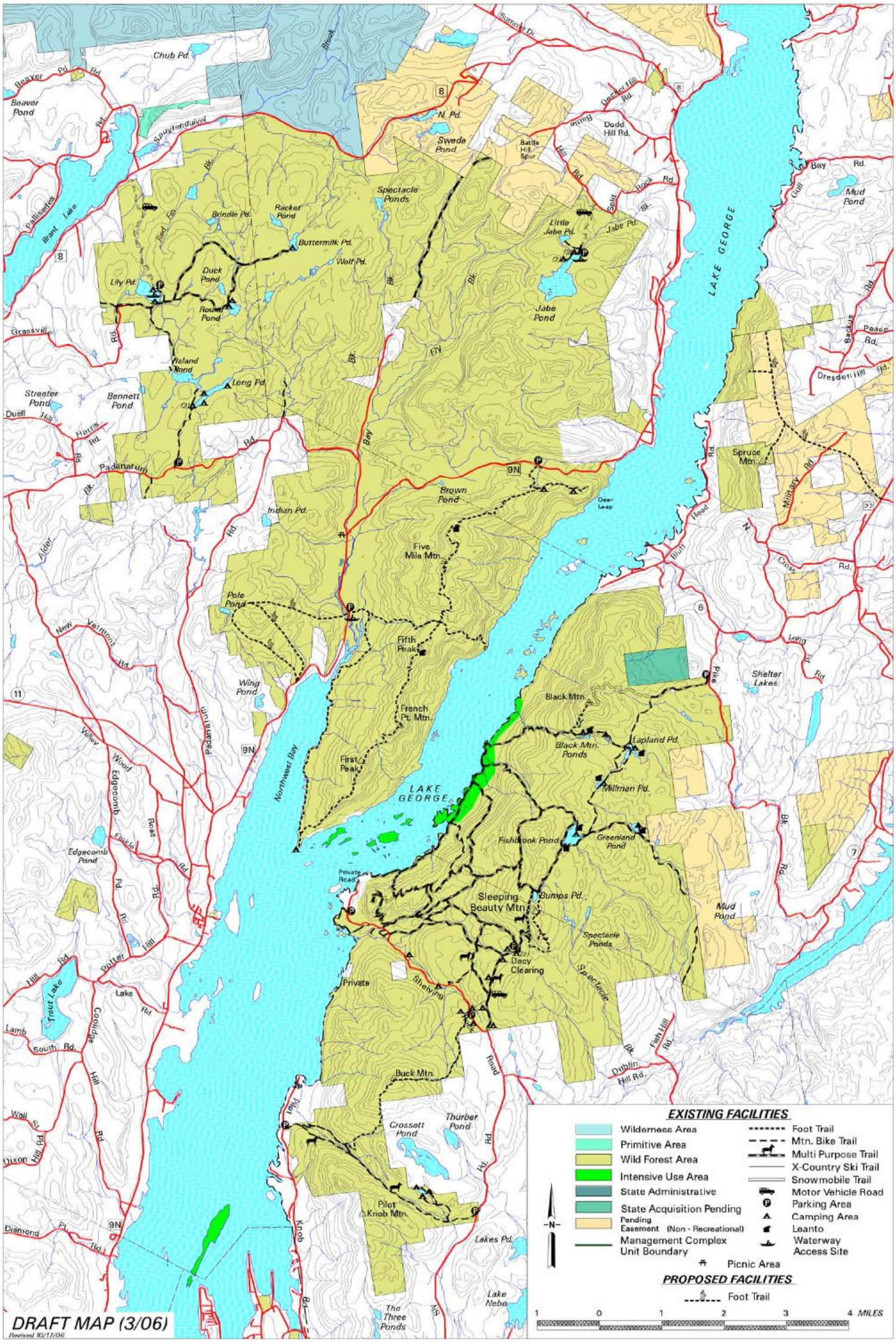
10120	SR	Thompson		PC	Camp, 1 biface, 4 quartzite debitage on surface
10121	SR	Thompson	Red Rock Bay	PC	7 debitage on surface
10122	SR	Thompson	Mohican Island	PC	Camp, 1 side-notched point, 6 debitage on surface
10123	SR	Thompson	Mohican Island	PC	2 debitage on surface
10124	SR	Thompson	Juanita Island	MLW	1 large triangular biface, 1 debitage on surface
10125	SR	Thompson	Range Island	PC	Debitage on surface
A113-01-0004	SR	HAA, Inc.	NW Bay Brook Site NYSM 5809	PC	Scatters on eroded surfaces
A113-01-0005	SR	HAA, Inc.	Tongue Mt. East Overlook NYSM 5811	PC	Debitage
A113-01-0009	SR	McCann	Tongue Mt.	PC	Spear point, adz, trade ax, clay pipe, pieces of chert
A113-01-0010	SR	McCann	Bear Pt.		
A113-01-0013	SR	McCann	Fork Island	PC	
A113-01-0014	SR	McCann	Northwest Bay Brook	PC	
A113-01-0015	SR	McCann, Bonafede, Ross	Northwest Bay	W	
A113-01-0017	SR	McCann	Burnt Island	PC	Stray find
A113-05-0021	SR	HAA, Inc.	NYSM 5110	PC	Traces of occupation
A115-03-0065	SR	HAA, Inc.	NYSM 5109	PC	Traces of occupation
A115-03-0069	SR	McCann	Black Mt. Pt.	PC	Camp with debitage, destroyed by construction
A115-03-0070	SR	McCann	Sleeping Beauty Mountain Summit		Charcoal and fire-cracked rock
A115-05-0033	SR	Tannenbaum, Santangelo	Stiles		Scattered materials that were buldozed
A115-05-0034	SR	McCann	Shelving Rock Bay	MW	Camp with debitage
A115-05-0035	SR	McCann	Pilot Knob	PC	Scattered material
A115-05-0036	SR	McCann	Knapp Site	LA, W, H: Lamoka, Levanna, Point Penninsula	Camps
A115-05-0037	SR	McCann	Rathburn Site	PC	Stray find
A115-05-0038	SR	McCann	Sleeping Beauty Mt.	1800s	Cabin
A115-05-0039	SR	Tannenbaum, Santangelo	Foote		Surface finds
A115-05-0040	SR	Podhurst	Kern/Stevens House	M1800s	
1334	T	Funk	Black Point	W, EH	Projectile points, pottery, trade goods
1335	T	Funk	Heart Bay	PC, EH	Projectile points, trade goods
1336	T	Funk	Fort Ticonderoga Reservation		
3291	T	Parker		PC	Camps, villages, and traces with a variety of stone tools and pottery
7325	T	Schlamp		PI	Fluted point
7335	T	Kingsley, Funk		PC	Debitage cluster
7336	T	Kingsley, Funk		PC	Rockshelter, points
7737	T	Parker			Camps, see NYSM 3291 for details
7738	T	Parker			Camps, see NYSM 3291 for details
A031-15-000007	T	HAA, Inc.	Delano Forge	1848-50	

A031-15-000082	T	New York State Historic Trust	Ft. Mt. Hope	1776	Fortifications built by American troops
A031-15-000084	T	New York State Historic Trust	Roger's Battle on Snowshoes	1758	French and Indian war battle site
A031-15-000085	T	New York State Historic Trust	Mt. Defiance	1777	Reconstruction of British battery
A031-15-000145	T	HAA, Inc.	Ticonderoga Forge	1800-35	Site of several forges?
A031-15-000147	T	HAA, Inc.	Ives Lead Mill	1876	
A031-15-000148	T	HAA, Inc.	La Chute Hydroelectric Plant	1888-1971	Collapsed superstructure of powerhouse
A031-15-000150	T	Garofalini	CV-2	1755-83	NRE: Shipwreck: large timbers
A031-15-000151	T	Garofalini	CV-1	1755-83	NRE: Shipwreck: floor timbers, frame ends, attached futtocks, hull strakes, wooden dowels, hand wrought nails, keelson, hand-wrought iron spikes
A031-15-000152	T	Garofalini	B1-B3	L1800s	NRE: 3 barge wrecks: heavy oak sternpost, bolts, drift-pins, nails, heavy knee supports, scarf joints
A031-15-000153	T	Garofalini	B4-B5	L1800s	NRE: 2 barge wrecks: drift-pins, beam, deck
A031-15-000154	T	Garofalini	B6	L1800s	NRE: Barge wreck: beam
A031-15-000155	T	Garofalini	SB-1	18 or E1900s	NRE: Steam vessel wreck: hull, stern, deck, deadwood assembly, rabbet, bow, propeller shaft, shaft bearings, rudder gudgeon
A031-15-000156	T	Garofalini	SB-3	18 or 1900s	NRE: Steam vessel wreck: frames, hull strakes
A031-15-000158	T	Garofalini	SB-4	18 or E1900s	NRE: Steam vessel wreck: beam, gunwales
A031-15-000159	T	Garofalini	B7	1800	NRE: Barge wreck: sides, bow
A031-15-000160	T	Garofalini	MB-3	1800s	NRE: Sailboat: centerboard, hull planks, iron cut nails
A031-15-000161	T	Garofalini	MB-1	1900s	NRE: 14-ft rowboat
A031-15-000162	T	Garofalini	MB-2	E1900s	NRE: Wooden rowboat with green painted hull
A031-15-000163	T	Garofalini	MB-4	H	NRE: Hardwood vessel
A031-15-000164	T	Garofalini	Marine Railway	1800s	NRE: Oak rail ties
A031-15-000165	T	Garofalini	Wooden Sledge	1800s	NRE: Planks, cut nails, iron eyebolts
A031-15-000166	T	McLaughlin	Ticonderoga Boat Launch Site	PC	2 chert biface fragments, 5 quartzite flakes, 46 chert flakes
A031-15-000168	T	Moody	Fort Ticonderoga Waterline Site #1	L1800s-E1900s	Depression, farm road, and plantings from a tenant farmer's house
A031-15-000169	T	Moody	Fort Ticonderoga Waterline Site #2	1920s	Stone well from tenant farmer house
A031-15-000170	T	Moody	Fort Ticonderoga Waterline Site #3	L18, E1900s	Sheet refuse
A031-15-000171	T	Moody	Fort Ticonderoga Waterline Site #4	L1800s-E1900s	Foundation
A031-15-000173	T		Ticonderoga Boat Launch Site	LW	Quartzite Levanna point, quartzite flakes, chert biface fragments and flakes
A031-15-000175	T	Moody	Fort Ticonderoga Waterline Site #5	PC	Scraper, core, flakes

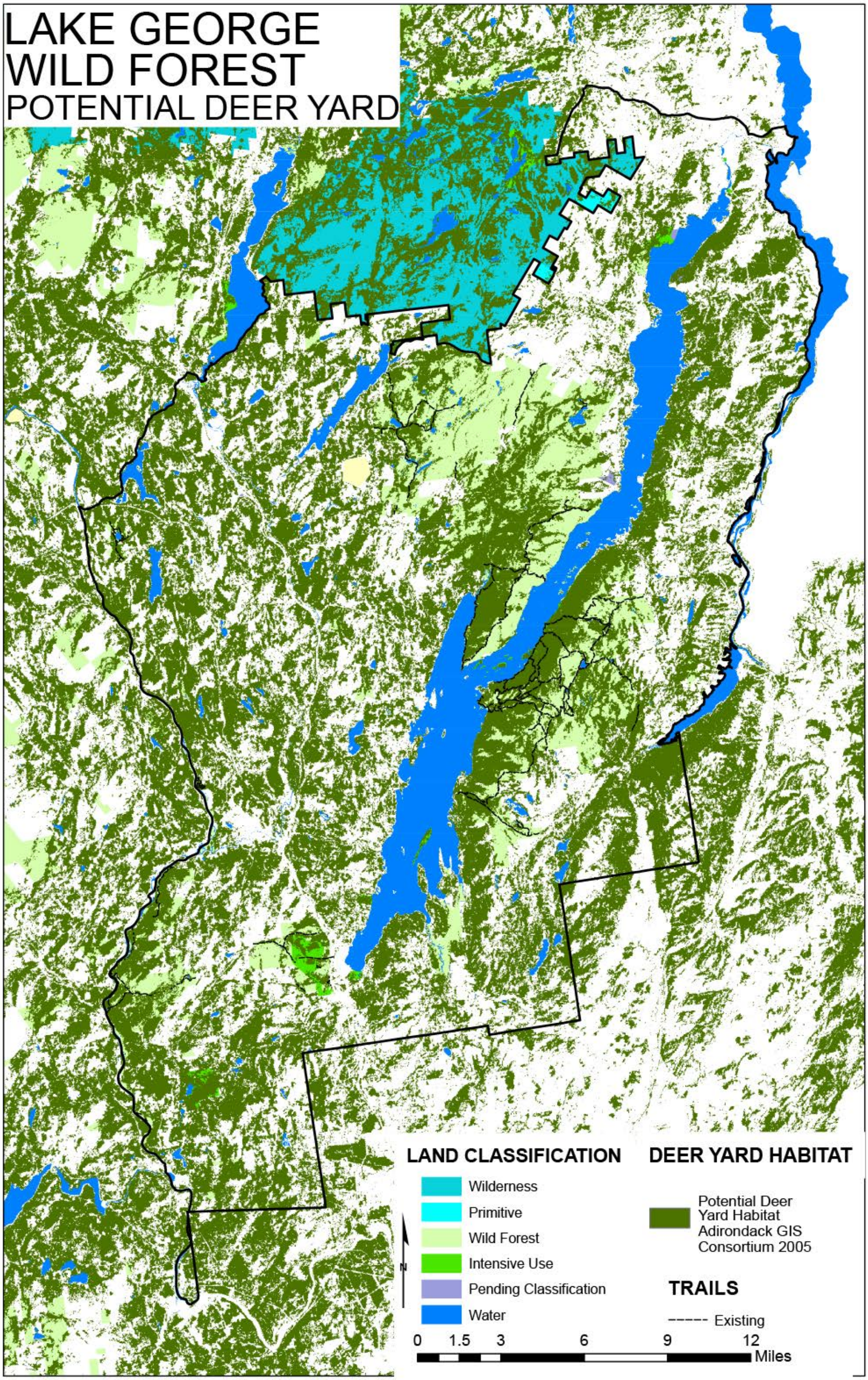
A031-15-0002	T	National Historic Landmarks	Fort Ticonderoga National Historic Landmark	L1700s	National Register Listed: Reconstructed fort, ruins of defenses and other outworks
A031-15-0006	T	HAA, Inc.	Horicon Iron Co. Coal Kilns	1876	
A031-15-0008	T	HAA, Inc.	Mount Defiance Iron Mine and Horicason Iron Co. Mine	1875	
A031-15-0012	T	HAA, Inc.	Block Point NYSM 1334	W	Points, pottery, trade goods
A031-15-0013	T	HAA, Inc.	Heart Bay NYSM 1335	W	Points, pottery, trade goods
A031-15-0014	T	HAA, Inc.	NYSM 3291	W-EH	
A031-15-0015	T	HAA, Inc.	Fort Ticonderoga Reservation, NYSM 1336		
A031-15-0016	T	HAA, Inc.	NYSM 3305	PC	Camp
A031-15-0017	T	HAA, Inc.	Submerged remains of 19th c. steamboat dock of the Lake George Steamboat company	pre-1853	Submerged remains of 19th c. steamboat dock of the Lake George Steamboat company
A031-15-0018	T	HAA, Inc.	A. J. Cook Residence	1858-1876	Buried foundation and a few artifacts
A031-15-0019	T	HAA, Inc.	Launch Ways for MV Ticonderoga II	1950	Oak, pine, maple launch, removed after launch of the Ticonderoga II
A031-15-0020	T	HAA, Inc.	Homelands Prehistoric Archeological Site	PC	Scraper, flakes, cracked rock
A113-04-000063	T		Sidewheel Steamer John Jay	1848-1856	Steamer w/ 80 passengers caught fire, 6 died, remains include floor frames, shell and ceiling planking, and portions of the keelson and stern
A113-04-0002	T	HAA, Inc.	NYSM 5080	PH	Camp
A115-14-0002	T	Allen	Black Point Colony	1770-75	Colony comprised of Maj. Philip Skene's freed slaves, destroyed by General Schuyler's forces in 1775
A115-14-0003	T	Allen	Gourlie Point Battle Site	1609	Possible location of battle between Iroquois and Champlain
5814	TG	Funk	Wormwood Cave	PC, H	Rockshelter with a Gun Flint and Chipped Quartzite
A113-11-000006	TG	SUNY Albany	S. Griffin House	H	
A113-11-000033	TG	Wormwood	Wormwood Cave	PC, H	See NYSM 5814
A113-11-0005	TG	Walsh	Wood House	H	Historic house
5103	W	Parker		PC	Camp
9379	W	Parker			Camp
A113-11-0003	W	Podhurst	Baker House	H	
A113-11-0004	W	SUNYA	Bennet House	H	
6989	W, P, SB	Parker		PC	Traces of occupation
8372	W, P, SB	Parker			Trail
5109	W, SR	Parker		PC	Traces of Occupation

APPENDIX XI: **Maps**


Schroon Lake
Ticonderoga
Mossy Point Boat Launch
Pottersville
Horicon Boat Launch
Chestertown
Palmer Pd.
Warrensburg
Lake George
Lake George Boat Launch
Lake Luzerne
South Bay Boat Launch
LAKE GEORGE
SCHROON LAKE
HUDSON RIVER
Private Land
DRAFT MAP (5/01)
Revised 10/17/06
EXISTING FACILITIES
Wilderness Area
Primitive Area
Wild Forest Area
Intensive Use Area
State Administrative
State Acquisition Pending
Pending Easement (Non - Recreational)
Management Complex Unit Boundary
Boat Launch
Foot Trail
Mtn. Bike Trail
Multi Purpose Trail
X-Country Ski Trail
Snowmobile Trail
Motor Vehicle Road
Parking Area
Camping Area
Leanto
Waterway Access Site
Picnic Area
PROPOSED FACILITIES
Foot Trail
N
3 0 3 6 MILES


DRAFT MAP (3/06)
Revised 10/17/06
EXISTING FACILITIES
Wilderness Area
Primitive Area
Wild Forest Area
Intensive Use Area
State Administrative
State Acquisition Pending
Pending Easement (Non - Recreational)
Management Complex Unit Boundary
Foot Trail
Mtn. Bike Trail
Multi Purpose Trail
X-Country Ski Trail
Snowmobile Trail
Motor Vehicle Road
Parking Area
Camping Area
Leanto
Waterway Access Site
Picnic Area
PROPOSED FACILITIES
Foot Trail
1 0 1 2 3 4 MILES
LAKE GEORGE
Northwest Bay
Chub Pd.
Beaver Pond
Brant Lake
Spectacle Ponds
Swede Pond
N. Pd.
Brindle Pd.
Racket Pond
Buttermilk Pd.
Wolf Pd.
Duck Pond
Lily Pd.
Round Pond
Island Pond
Long Pd.
Streeter Pond
Bennett Pond
Little Jabe Pd.
Jabe Pd.
Jabe Pond
Mud Pond
Brown Pond
Indian Pd.
Five Mile Mtn.
Pole Pond
Fifth Peak
Wing Pond
French Pt. Mtn.
First Peak
Black Mtn.
Black Mtn. Ponds
Lapland Pd.
Millman Pd.
Fishbrook Pond
Greenland Pond
Edgecomb Pond
Sleeping Beauty Mtn.
Bumps Pd.
Spectacle Ponds
Dacy Clearing
Shelving
Trout Lake
Buck Mtn.
Crossett Pond
Thurber Pond
Pilot Knob Mtn.
Lakes Pd.
Lake Nebo
The Three Ponds
Shelter Lakes
Spruce Mtn.
Deer Leap
Mud Pond

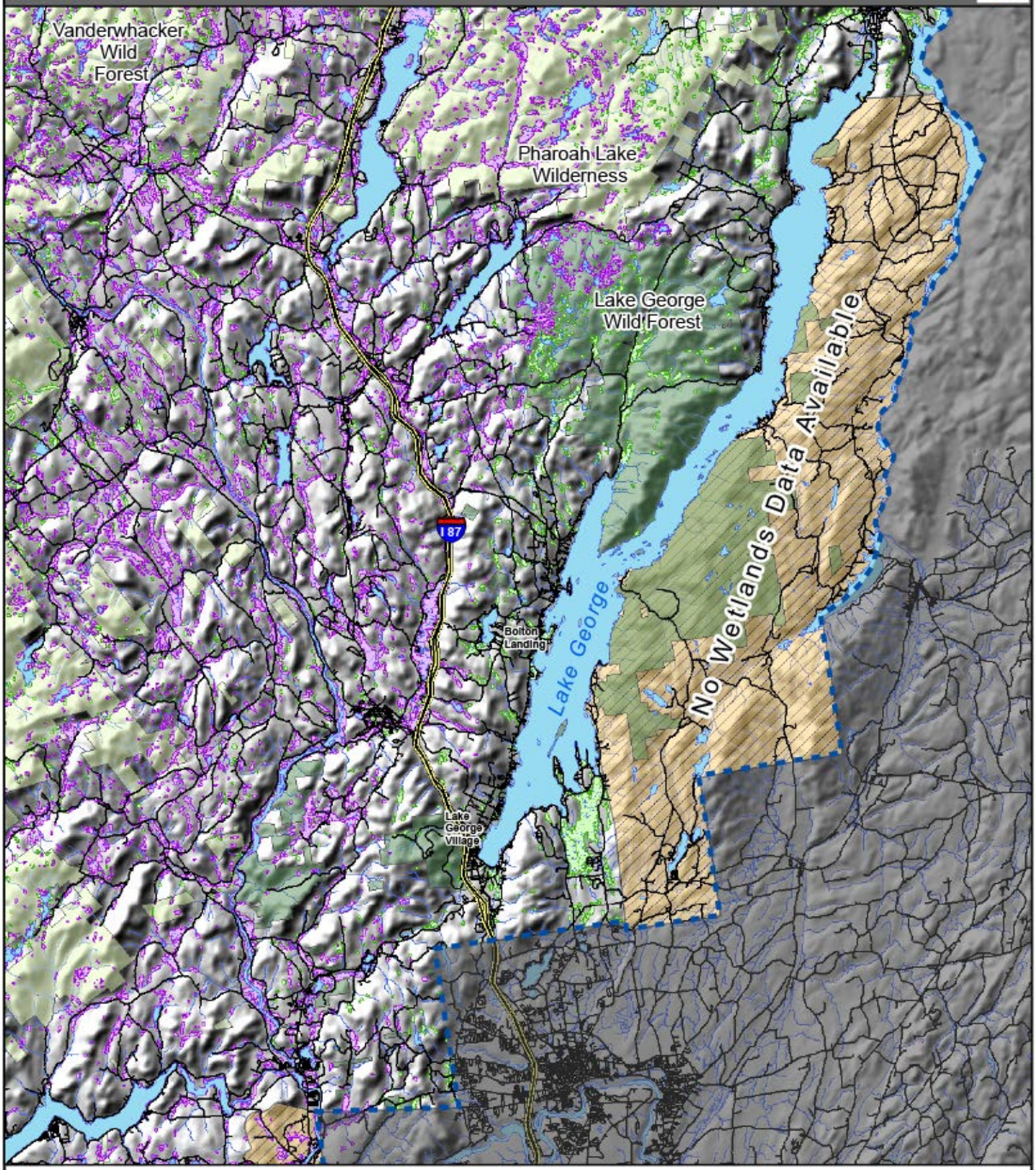
LAKE GEORGE WILD FOREST
POTENTIAL DEER YARD



Lake George Wild Forest

Wetlands

New York State Department of Environmental Conservation



Legend

- APA Blueline
- Lake George Wild Forest
- Other Public Lands
- APA Covertype Wetlands
- DEC Regulatory Wetlands

N

0 1 2 4 Miles

Scale 1:285,000
1 Inch = 4.5 Miles

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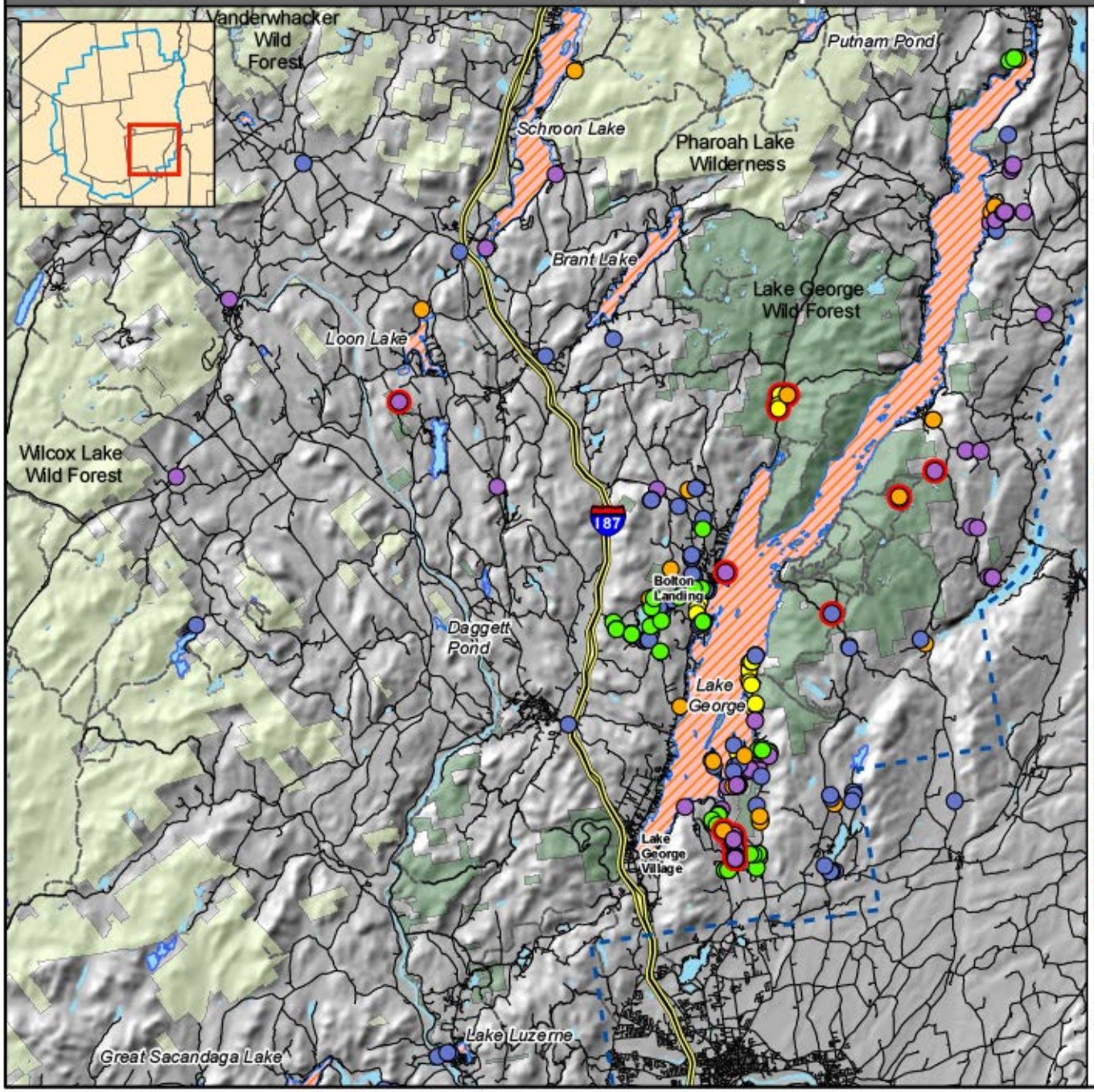
11/2/06

Lake George Wild Forest

Documented Terrestrial & Aquatic Invasive Plant Species

New York State Department of Environmental Conservation



Legend

- Trails
- APA Blueline
- Lake George Wild Forest
- Other Public Lands

Terrestrial Invasive Plants*

- Garlic Mustard
- Japanese Knotweed
- Phragmites
- Purple Loosestrife
- Shrubby Honesuckle

Aquatic Invasive Plants

- No Infestation Found
- Infested Lake
- No Data

Occurrences highlighted in red are of immediate concern to Lake George Wild Forest.

Shrubby Honeysuckle

Purple Loosestrife

Phragmites

Garlic Mustard

Japanese Knotweed

Eurasian Watermilfoil

N

0 1 2 4 6 8 Miles

Scale 1:340,000
1 inch = 5.37 Miles

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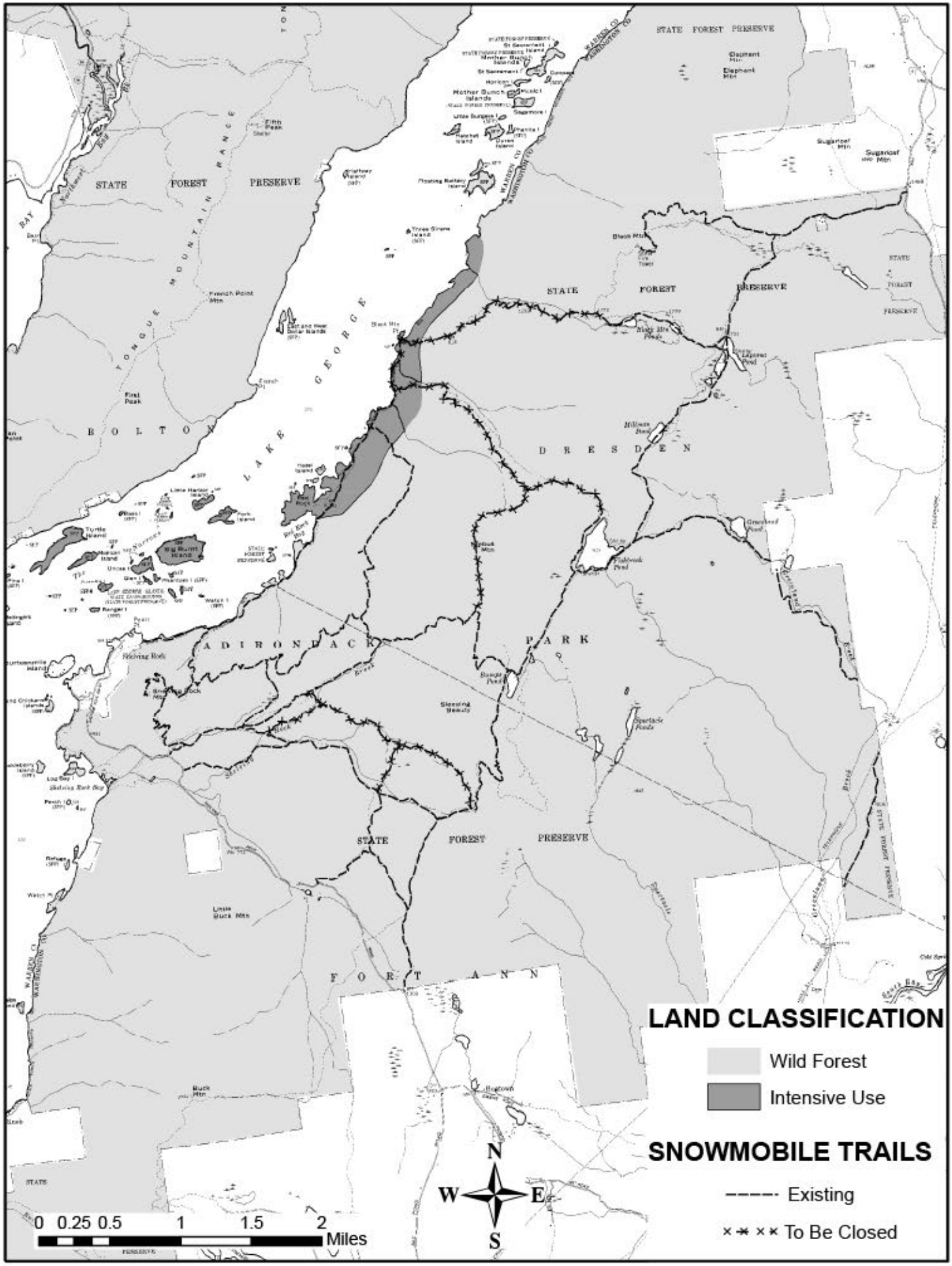
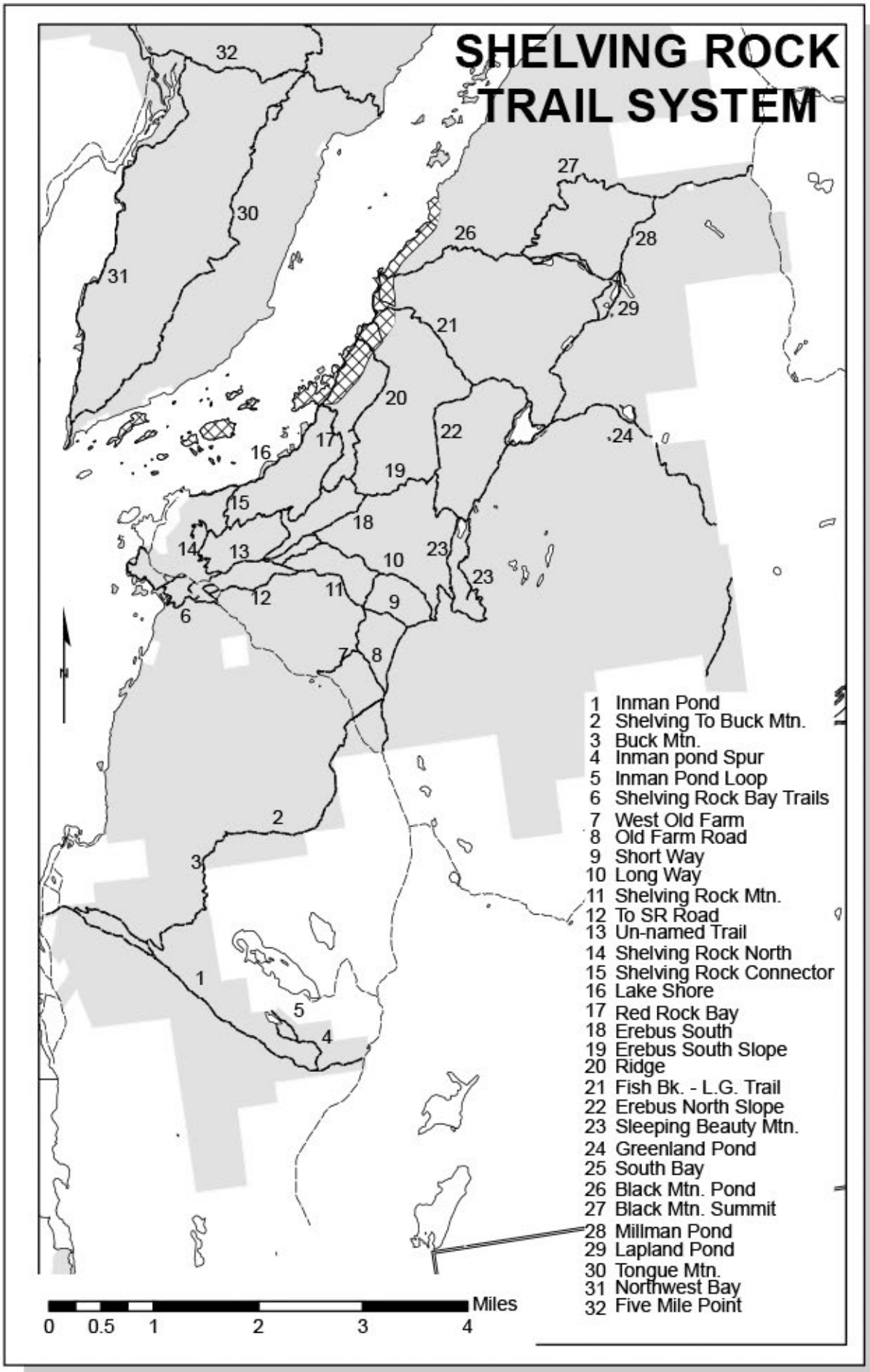

LAND CLASSIFICATION
Wild Forest
Intensive Use
SNOWMOBILE TRAILS
Existing
To Be Closed
N
W
E
S
0 0.25 0.5 1 1.5 2
Miles
LAKE GEORGE
BOLTON
DRESDEN
FORT ANN
ADIRONDACK PARK
STATE FOREST PRESERVE
TONGUE MOUNTAIN RANGE
Black Mtn
Sugarloaf Mtn
Elephant Mtn
Mother Bunch Islands
Little Buck Mtn
Buck Mtn
Sleeping Beauty
Spectacle Ponds
Fishbrook Pond
Sleeping Rock
Big Burnt Island
Turtle Island
French Point Mtn
First Peak
Fifth Peak
Three Sisters Island
Floating Battery Island
Hillman Pond
Greenland Pond
Bunger Pond
Log Bay
Sleeping Rock Bay
Hogtown Cove
WARREN CO
WASHINGTON CO


SHELVING ROCK
TRAIL SYSTEM
1 Inman Pond
2 Shelving To Buck Mtn.
3 Buck Mtn.
4 Inman pond Spur
5 Inman Pond Loop
6 Shelving Rock Bay Trails
7 West Old Farm
8 Old Farm Road
9 Short Way
10 Long Way
11 Shelving Rock Mtn.
12 To SR Road
13 Un-named Trail
14 Shelving Rock North
15 Shelving Rock Connector
16 Lake Shore
17 Red Rock Bay
18 Erebus South
19 Erebus South Slope
20 Ridge
21 Fish Bk. - L.G. Trail
22 Erebus North Slope
23 Sleeping Beauty Mtn.
24 Greenland Pond
25 South Bay
26 Black Mtn. Pond
27 Black Mtn. Summit
28 Millman Pond
29 Lapland Pond
30 Tongue Mtn.
31 Northwest Bay
32 Five Mile Point
Miles
0 0.5 1 2 3 4