New York State
Department of Environmental Conservation

Division of Lands & Forests

Raquette Boreal
Unit Management Plan

INCLUDING:

Raquette-Jordan Boreal Primitive Area
Raquette River Wild Forest
Lassiter Easement Lands
Conservation Fund Easement Lands and
International Paper Easement Lands
Niagara Mohawk Easement

St. Lawrence County
Towns of Colton, Hopkinton and Piercefield

December 2006

GEORGE E. PATAKI, Governor DENISE M. SHEEHAN, Commissioner

Lead Agency:

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GOVERNOR

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

DENISE M. SHEEHAN
COMMISSIONER

M E M O R A N D U M

DEC 22 2006

TO: The Record

FROM: Denise M. Sheehan

SUBJECT: Raquette Boreal Wild Forest

The Unit Management Plan for the Raquette Boreal Wild Forest has been completed. The Plan is consistent with guidelines and criteria for the Adirondack Park State Land Master Plan, the State Constitution, Environmental Conservation Law, and Department Rules, Regulations and Policies. The Plan includes management objectives and a five year budget and is hereby approved.

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RESOLUTION ADOPTED BY
THE ADIRONDACK PARK AGENCY
WITH RESPECT TO RAQUETTE BOREAL
UNIT MANAGEMENT PLAN

December 14, 2006

WHEREAS, Section 816 of the Adirondack Park Agency Act directs the Department of Environmental Conservation to develop, in consultation with the Adirondack Park Agency, individual management plans for units of land classified in the Master Plan for Management of State Lands and requires such management plans to conform to the general guidelines and criteria of the Master Plan; and

WHEREAS, in addition to such guidelines and criteria, the Adirondack Park State Land Master Plan prescribes the contents of unit management plans and provides that the Adirondack Park Agency will determine whether a proposed individual unit management plan complies with such general guidelines and criteria; and

WHEREAS, the Department of Environmental Conservation has prepared a unit management plan for the Raquette-Boreal Area in the Towns of Colton, Hopkinton and Piercefield, St. Lawrence County, and includes proposed management actions for the Raquette-Boreal Primitive Area, Raquette River Wild Forest, Lassiter Easement Lands, Conservation Fund Easement Lands, International Paper Easement Lands, and Hollywood Mountain Parcel Easement dated November, 2006; and

WHEREAS, the Department has filed a SEQR Negative Declaration and published a notice in the Environmental Notice Bulletin on November 29, 2006; and

WHEREAS, the Department of Environmental Conservation is the lead agency, and the Adirondack Park Agency is an involved agency whose staff have been consulted in the preparation of the proposed plan; and

WHEREAS, the Agency is requested to determine whether the final Raquette-Jordan Boreal Primitive Area and Raquette River Wild Forest Unit Management Plan, dated November, 2006, is consistent with the Standards and Guidelines of the Adirondack Park State Land Master Plan; and

WHEREAS, the Adirondack Park Agency has reviewed the proposed Raquette-Boreal Area Unit Management Plan; and

WHEREAS, the Raquette-Jordan Primitive Area which forms the core of this unit plan was recently classified as a Primitive Area due to the presence of biological resources of Statewide significance as well as unique and significant resource values for its sense of remoteness and outstanding opportunities for solitude; and

WHEREAS, the Plan recognizes the need to improve public use and enjoyment of the area, avoid user conflicts and prevent overuse of the area according to the guidelines and criteria of the State Land Master Plan; and

WHEREAS, the Plan calls for the monitoring of public use to assess changes in use levels, monitoring of motor vehicle use of roads within the unit which are utilized under reserved rights, developing a Limits of Acceptable Change system to monitor and address environmental impacts related to the existence of improvements and facilities in the Unit and prevent illegal motor vehicle use; and

WHEREAS, the Plan's objectives include providing reasonable public access where appropriate, maintenance of roads to prevent degradation to natural resources, and improving overall access once rights of use are available in order to provide visitors with a trail system that offers a range of recreational opportunities while minimizing resource impacts; and

WHEREAS, the Plan has provided a preliminary alternative analysis of an east-west snowmobile trail connector route for information and reference purposes and has selected a no-action alternative since access issues for many of the alternatives have not been resolved; and

WHEREAS, no specific actions regarding the designation of a snowmobile trail are proposed as part of this unit plan approval, any future motorized use proposal or snowmobile trail designation on State lands of the unit will require approval by the Agency as part of a unit plan amendment; and

WHEREAS, the Plan’s objectives include providing motorized boat opportunities but also calls for promulgation of a new regulation to prohibit use of motorboats on the Jordan River; and

WHEREAS, the Plan has as objectives to inventory, map and monitor soil erosion problems caused by recreational use, develop Limits of Acceptable Change indicators and standards for soil erosion, restrict motor vehicle use during wet weather and develop a priority list of trails and roads needing maintenance; and

WHEREAS, the Plan proposes to assess the Raquette River Corridor and identify suitable locations for primitive tent sites and pit privies at appropriate locations within the Raquette River Corridor and along Carry Falls Reservoir in accordance with primitive tent site guidelines of the State Land Master Plan; and

WHEREAS, the Plan proposes the promulgation of new regulations to restrict at-large camping and require the use of designated tent sites between the Lassiter Main Haul Road and Carry Falls Reservoir; and

WHERAS, the Plan recognizes the need for improving public access for recreational use and proposes to designate Carry Falls Trail as a mountain biking trail and provide for mountain biking opportunities on trails and roads suitable for such use; and

WHEREAS, the Plan intends to increase opportunities for people with disabilities, provide an accessible primitive tent site along Carry Falls Reservoir, and modify the existing water access site at Jamestown Falls for universal accessibility; and

WHEREAS, the Plan proposes to develop Limits of Acceptable Change indicators for riparian areas, monitor the location and extent of key invasive plant species, train Department staff to identify and document the extent of invasive plants, and work with the Adirondack Park Invasive Plant Program to effectively manage and eradicate invasive plants; and

WHEREAS, the Plan intends to preserve and protect known location of Threatened and Endangered species and to both utilize and assist natural processes to restore natural plant associations and communities, and when feasible, to re-establish self-sustaining populations of Endangered, Threatened or Species of Special Concern such as spruce grouse, moose, fisher and marten; and

WHEREAS, the Plan proposes management intended to perpetuate and enhance a diverse fishing experience in accordance with sound biological management practices, maintain diverse coldwater and warmwater fish populations in the Unit, conduct biological and chemistry surveys of all ponds, and continue the evaluation of the Jordan River brook trout population;

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 816 of the Adirondack Park Agency Act, the Adirondack Park Agency finds the Raquette-Boreal Area Unit Management Plan, dated November, 2006, conforms with the general guidelines and criteria of the Adirondack Park State Land Master Plan; and

BE IT FINALLY RESOLVED, that the Adirondack Park Agency authorizes its Executive Director to advise the Commissioner of Environmental Conservation of the Agency's determination in this matter.

AYES: R. Beach (DED), S. Buchanan (DEC), R. Hoffman (DOS), A. Lussi, F. Mezzano, K. Roberts, W. Thomas, J. Townsend, L. Ulrich, C. Wray, R. Whaley

NAYS: None

ABSTENTIONS: None

ABSENT: None

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ACKNOWLEDGMENTS

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PREFACE

The lands that comprise the Raquette-Boreal Unit which are the subject of this plan include Forest Preserve lands and private lands subject to New York State owned conservation easements. Each has its own unique set of legal structures that help define how the lands should be managed and planning requirements for these lands.

State Lands in the Adirondack Park are classified by the Adirondack Park State Land Master Plan (APSLMP) according to *"...their characteristics and capacity to withstand use."* Those lands administered by the Department of Environmental Conservation (DEC) are classified into seven categories: Wilderness, Primitive, Canoe Area, Wild Forest, Intensive Use, State Administrative and Historic. Each classification carries an explicit set of guidelines which will, when implemented, provide the State lands of the Park with a unique blend of resource protection and public use.

The APSLMP was required by the Adirondack Park Agency Act and was designed to provide a unified and comprehensive mandate on how the State lands of the Adirondack Park should be managed and used. To accomplish this objective, Executive Law Section 816 directs the Department of Environmental Conservation to develop, in consultation with the Agency, individual unit management plans (UMP's) for each unit of land under its jurisdiction classified in the Master Plan. In accordance with this statutory mandate, all plans will conform to the guidelines and criteria set forth in the master plan and cannot amend the master plan itself. It has been held that the APSLMP has the force of legislative enactment. These UMP's translate the objectives of the APSLMP and related legislation, legal codes, rules, regulations, policies, area specific resource and visitor information into a single useful document. Ordinarily, these plans are based on a five-year time frame so that revisions can be made reflecting changes in resource and/ or sociological conditions. Plans may also be amended or revised sooner if warranted.

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 Department of Environmental Conservation 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 UMP's, State land project management, and State land activity compliance. The MOU also outlines a process for the interpretation of the APSLMP.

Conservation easement lands are established and operate under the legal jurisdiction of Article 49 of the Environmental Conservation Law (ECL). Easements may be as simple as a limitation on the number of buildings that may be present on a piece of property to easements providing for public recreation use and limitations/requirements for sustainable timber management. Most easements which include public recreation rights require the State to consult with the landowner when developing public recreation plans for the property and may require the Department to submit such plans for landowner determination of compliance with the easement. Including these easement lands in this UMP will fulfill the requirements of the easements regarding public recreational use and planning.

The subject of this Unit Management Plan includes Forest Preserve lands classified as Primitive and Wild Forest and three tracts on which the State of New York holds conservation easements, each of which is different. Without a UMP, the management of these lands could easily become a series of uncoordinated reactions to immediate problems. When this happens, unplanned management actions may be in conflict with Forest Preserve or easement goals and objectives. A prime objective of unit management planning is to use environmental and social science. Comprehensive planning allows for the exchange of ideas and information before actions are taken that can have long-term effects. A written plan stabilizes management despite changes in personnel or the influences of multiple administrative units where several managers and/or disciplines have different perceptions on how these lands should be managed. Plans that clearly identify management objectives and actions have demonstrated greater potential for securing needed funding.

Lastly, and perhaps most importantly, involving and introducing the public to the planning process gives interested parties the opportunity to learn about, evaluate, provide advice and become directly involved in unit planning. Public participation gives a sense of pride and ownership in the care and custody of State lands; it allows the public to provide input on the problems that DEC constantly struggles to resolve. This involvement is crucial to a plan's acceptance and implementation.

PURPOSE AND NEED

Without a UMP, the management of these public lands can easily become a series of uncoordinated reactions to immediate problems. No new facility construction, designation, or major rehabilitation can be undertaken until a UMP is completed and approved, with current management limited to routine maintenance and emergency actions. A written plan stabilizes management despite changes in personnel and integrates related legislation, legal codes, rules and regulations, policies, and area specific information into a single reference document. Other benefits of the planning process that are valuable to the public include the development of area maps, fishing information handouts, and a greater awareness of recreational opportunities and needs within specific areas of the Adirondack Park. In view of tight budgets and competition for monetary resources, plans that clearly identify area needs have greater potential for securing necessary funding, legislative support, and public acceptance.

This document provides a comprehensive inventory of natural resources, existing facilities and uses, while identifying the special values which justify the protection of this area in perpetuity for future generations. The process involved the gathering and analysis of existing uses and conditions, regional context and adjacent land considerations, future trends, and the identification of important issues. Ordinarily, the plan will be revised on a five-year cycle, but may be amended when necessary in response to changing resource conditions or administrative needs. Completion of the various management actions within this UMP will be dependent upon adequate manpower and funding. Where possible, the DEC will work with volunteer groups, local communities, town and county governments, and pursue alternative funding sources to accomplish some of the proposed projects or maintenance.

ORGANIZATION OF THE PLAN

This UMP is intended to be a working document, easily used by both State personnel and the public. Footnotes are placed at the bottom of the page and provide more detailed information. Specific references are cited and are included in the bibliography. The content of each section is briefly summarized below:

Section I introduces the area, provides a general description with information on the size and location of the unit, access, and a brief chronology of the history of the general area.

Section II provides an inventory of the natural, scenic, cultural, fish and wildlife, and associated resources along with an analysis of the area's ecosystems. Existing facilities for both public and administrative use are identified, along with an assessment of public use and carrying capacity. Adjacent land uses, access, and impacts are also discussed.

Section III includes descriptions of past management activities, existing management guidelines, management principles important for achieving the classification objectives for the unit, and an outline of issues identified through the inventory process with input from the planning team and public. This section lays the foundation for the development

of specific management strategies necessary to attain the goals and objectives of the APSLMP. An assessment of needs and projected use are also discussed.

Section IV will identify specific management proposals as they relate to natural resources, uses, or facilities. These proposed actions will be consistent with the management guidelines and principles and will be based on information gathered during the inventory process, through public input and in consultation with the planning team. This section also identifies management philosophies for the protection of the area while providing for use consistent with its carrying capacity.

Section V includes a schedule for implementation and identifies the budget needs to carry out the work described in the UMP.

WHAT THE PLAN DOES NOT DO

The proposed management actions identified in this plan are confined to the Raquette Boreal Unit lands and waters. Activities on adjacent State lands or private property are beyond the scope of this document and will only be discussed as they relate to uses and impacts to the Raquette Boreal Unit. In addition, this UMP cannot suggest changes to Article XIV, Section 1 of the New York State Constitution or conflict with statutory mandates or DEC policies. All proposals must conform to the guidelines and criteria set forth in the APSLMP and cannot propose to amend the Master Plan itself.

State Environmental Quality Review Act (SEQRA)

The State Environmental Quality Review Act requires that all agencies determine whether the actions they undertake may have a significant impact on the environment. The intent of the legislation is to avoid or minimize adverse impact on the resource. The guidelines established in the APSLMP for developing unit management plans express these same concerns. Any development within the unit and presented in the plan must take into consideration environmental factors to insure that such development does not degrade that environment. The overall intent of this UMP is to identify mitigating measures to avoid or minimize adverse environmental impacts to the natural resources of the State within the unit. Any reconstruction or development within the confines of this unit will take environmental factors into account to ensure that such development does not degrade the resource.

As required by SEQRA, during the planning process a range of alternatives were formulated to evaluate possible management approaches for dealing with certain issues or problem locations. Department staff considered the no-action and other reasonable alternatives, whenever possible. Potential environmental impacts, resource protection, visitor safety, visitor use and enjoyment of natural resources, user conflicts, interests of local communities and groups, and short and long-term cost-effectiveness were important considerations in the selection of proposed actions. Efforts were made to justify reasons for the proposals throughout the body of the UMP so the public can clearly understand the issues and the rationale for Department decision making.

The initial draft UMP is reviewed internally by DEC and APA staff, with necessary changes made prior to the draft UMPs distribution for public review. At this time, a press release is issued and a public meeting scheduled to receive public comments on the draft plan. A minimum 30-day public comment period follows the public meeting, during which time written comments may also be submitted regarding the plan. At the end of the public comment period, all public comment received on the draft plan is assessed, and appropriate changes are made to the plan. The final UMP is then reviewed by the APA staff and Commissioners to determine its consistency with the Adirondack Park State Land Master Plan. Subsequently, the final UMP is approved by the Commissioner of Environmental Conservation, printed and distributed.

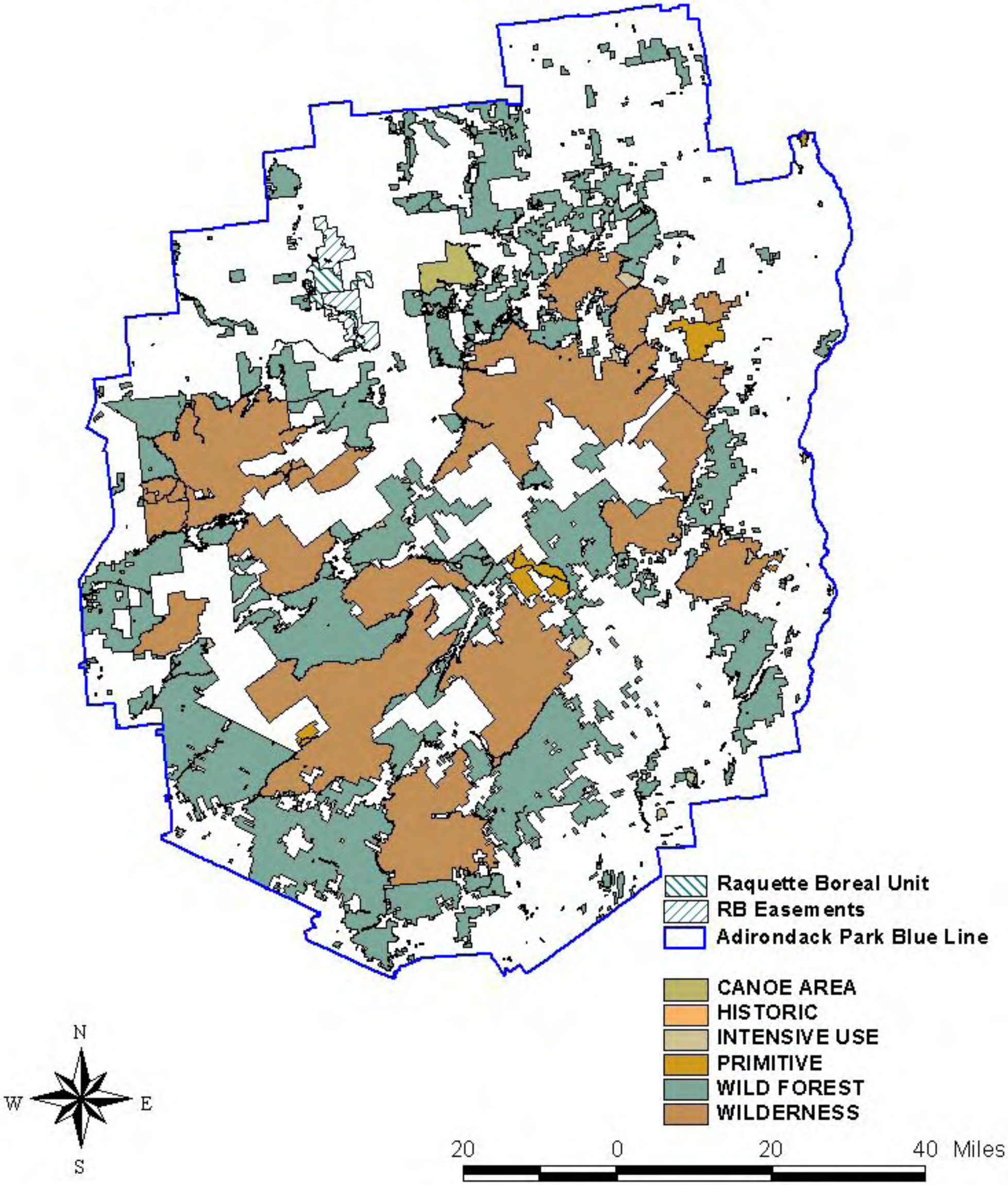
No Action Alternative or Need for a Plan

From a legal perspective, the No Action alternative of not writing a UMP is not an option. DEC is required to prepare a management plan for the Raquette Boreal Unit pursuant to the APSLMP and Executive Law § 816. In addition a UMP serves as a mechanism for the Department to study and identify potential areas for providing access 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 an administrative perspective, the "No Action" alternative is not an option. The NYS Department of Environmental Conservation has the statutory responsibility under Environmental Conservation Law (ECL) §§3-0301(1)(d) and 9-0105(1), to provide for the care, custody, and control of these public lands. The UMP will provide the guidance necessary for staff to manage the area in a manner that protects the environment while at the same time providing for suitable outdoor recreation opportunities for the public. Without the development and future implementation of the UMP, sensitive environmental resources of the unit could be impacted negatively and it is highly likely that the public enjoyment of such resources would decrease. Public use problems would continue to occur.

Management of the Raquette Boreal Unit via a UMP will allow the Department to improve public use and enjoyment of the area, avoid user conflicts and prevent over use of the resource (e.g., through trail designations, access restrictions, placement of campsites and lean-tos away from sensitive resource, etc.). Management Alternatives were developed for some of the UMP proposals that may: (1) have significant environmental impacts, (2) involve facility closures, or (3) involve controversial actions changing existing public use, and can be found in Section IV of this document. In some instances no preferred alternative was selected and therefore no actions will be taken. In these situations future actions will require an amendment to this plan, which will be subject to a separate SEQRA review.

ADIRONDACK PARK
RAQUETTE BOREAL UNIT



I. INTRODUCTION

A. Planning Area Overview

The unit is bounded on the North by Stark Road, Joe Indian Road and Joe Indian Pond, on the East by the West Branch of the St. Regis River and the St. Lawrence County line, on the south by State Highway (SH) 3, and on the west by SH 56.

The Raquette Boreal Unit is a mix of State owned Forest Preserve lands and privately owned lands subject to Conservation Easements. Forest Preserve lands are classified as either Primitive or Wild Forest. The proximity of these lands to each other, the similarities of their natural resources, and current and potential interconnected recreational opportunities provide a strong rationale for combining these lands into one planning unit, therefore providing for planning over a broader landscape. However, ownership and classification differences necessitate the need for somewhat different management objectives and strategies for each subunit. For example, in some instances, certain recreational uses may be compatible across all of the unit while other recreational uses may be limited to specific portions of the unit, based on State Land Master Plan (SLMP) requirements for Forest Preserve lands or requirements/restrictions of the easement agreement on Conservation Easement lands.

The Raquette River Wild Forest consists of lands laying west of the Lassiter Main Haul Road and several smaller detached parcels. These detached parcels include; Garlough, Stark, Catamount and Parameter, all lands acquired from Niagara Mohawk.

The Raquette-Jordan Boreal Primitive Area includes State lands laying east and south of the Lassiter Main Haul Road and west of the St. Lawrence-Franklin County line. The State owned lands comprising the Raquette River Corridor from the Colton-Piercefield town line to the dam at Piercefield Flow are also part of this Primitive Area. The corridor is generally 500 feet wide from the high water line on both banks of the river.

The Lassiter Conservation easement lands lie east of Carry Falls Reservoir. These lands are bordered on the north by lands of International Paper; on the east by the Franklin County boundary; and on the south by the Raquette-Jordan Boreal Primitive Area.

The International Paper easement lands lie south of the Raquette River and north of SH 3.

The Conservation Fund easement is located north of the Raquette River and south of the Raquette-Jordan Boreal Primitive Area.

The Niagara Mohawk easement lands are located west of the Carry Falls Reservoir and east of SH 56.

B. Unit Geographic Information

Raquette-Jordan Boreal Primitive Area

Townships	Tract/Lots	7.5 minute Quads
Colton	Macomb's GT2 T5 Lots 0,1,4,5 T8 Lots 29,30,31,41,42, 43 and 44	Carry Falls Childwold Mount Matumbla Piercefield
Hopkinton	Macomb's GT2 T9 Lots 6,7,8,14,15,16, 23,24,40,47,55 and 56	
Piercefield	Macomb's GT2 T6 Lots D,E,G,H,I,K,L,4,10, 11,16,17,22,23,BT Reed Tract Harrison Tract, 1100 Tract	

Raquette River Wild Forest

Townships	Tract/Lots	7.5 minute Quads
Colton	Macomb's GT2 T8 Lots 3,4,8,9,10,19,20,29,30, 31,40,41,42,43,44	Carry Falls Stark Childwold
Hopkinton	Macomb's GT2 T9 Lots 6 and 9	

International Paper Easement (Development easement only, no public recreation rights)

Townships	Tract/Lots	7.5 minute Quads
Piercefield	Macomb's GT2 T6 Lots D, G, H, J, K, L, N, O, 1100 Tract, BR Reed Tract, Lots 3,4,9,10,16	Childwold Mount Matumbla Piercefield

Conservation Fund Easement (Development easement only, no public recreation rights)

Townships	Tract/Lots	7.5 minute Quads
Piercefield	Macomb's GT2 T6 Lots 6,11,12,4,10,5,17,18,16, 1100 Tract, WH Harrison Tract Lots A, B, C, D, E, F, G, H, I, K, L BT Reed Tract, 23,24	Childwold Mount Matumbla Piercefield

Lassiter Easement

Townships	Tract/Lots	7.5 minute Quads
Hopkinton	Macomb's GT2 Kildare (N) Unallotted portion of T12 T9 Lots 3,4,5,9,10,11,12,13,17,18, 19,20,21,22,26,27,28,36 Macomb— GT2 Kildare (S) T9 Lots 45,46,48,53,54	Carry Falls Mount Matumbla Augerhole Falls

Niagara Mohawk Easement

Townships	Tract/Lots	7.5 minute Quads
Colton	Macomb's GT2 T8 Lots 21 and 28	Carry Falls

C. General Location

The Raquette Boreal Unit covers Forest Preserve and Conservation Easement lands located within the Towns of Colton, Hopkinton and Piercefield in St. Lawrence County. The unit is located in the north central part of the Adirondack Park.

D. Acreage

Raquette River Wild Forest	3,057 acres
Raquette-Jordan Boreal Primitive Area	11,936 acres
Lassiter Easement- Kildare Tracts	15,617 acres
Conservation Fund Easement- Raquette River Tract	13,268 acres
International Paper Easement- Raquette River Tract	4,185 acres
Niagara Mohawk Easement- Hollywood Mountain Parcel	1,057 acres

E. General Access

Public access to these lands is primarily from Route 56 and Route 3. From Route 56, state land access to the east shore of Carry Falls Reservoir and the majority of the unit's Forest Preserve and Conservation Easement lands is by boat. Brookfield Power, Inc. the owner of the Carry Falls Reservoir and Hydro facilities, operates two public recreation sites, including boat launches, off Rt. 56 on the western shore of the reservoir that provide public access to the reservoir. A small parcel of wild forest land lies adjacent to Route 56 at Jamestown Falls that includes a public motor vehicle access road down to the river within sight of the base of Jamestown Falls.

F. General History

1790's — It is believed that the first white explorer to visit the area now designated as the Raquette Boreal Unit was Benjamin Wright, hired to survey the large tract of northern New York land (nearly 4,000,000 acres) purchased by Alexander Macomb in 1791. Wright described great pines along the mouth of the Jordan River and throughout the region.

Macomb's lands were subsequently divided into townships laid out in squares of approximately 30,000 acres each. Early land speculators often commemorated their European origins in naming the lands. Thus Hollywood and Kildare, early townships in the Raquette Boreal Unit, were named after towns in Ireland.

1801 — Records show Indian movement here prior to white settlement, with the birth of Indian guide Mitchell Sabbatis occurring in today's Town of Parishville in 1801. Although the region was dominated mostly by Mohawks of the Iroquois Confederation, the Sabbatis family was of the Abenaki tribe.

1836 — By 1836, settlement had advanced up the Raquette to South Colton, and soon progressed to the Upper Wick section of Parishville, near Joe Indian Pond, as lumbermen continued southward up the Raquette toward Franklin County.

1843 — Town boundaries encompassing the Raquette Boreal Unit changed over time. In 1843 the town of Colton was separated from Parishville. Later, as early townships were merged into the larger towns, the townships of Hollywood, Jamestown and Oakham were removed from Hopkinton and annexed into Colton.

1846 Primarily in response to the interests of Potsdam's lumber entrepreneurs, a law was passed by New York State in 1846 declaring the Raquette to be a public highway for lumbering, from Raquette Lake to the St. Lawrence. Now the river channel could be improved and fully utilized to float logs to down-stream lumber mills. Logs were typically about thirteen feet in length.

1865 Maps of this year show that a primitive highway has been constructed between Colton and Long Lake, facilitating the movement of lumbermen, and opening the northern area to tourism that spread through the Adirondacks following the Civil War.

Maps of this period also depict an alternative route from Colton into Franklin County following the Jordan River through the eastern reaches of today's Raquette Boreal Unit. This road continues to appear on an 1884 New York State Forest Commission map as well as on St. Lawrence County maps of 1898 and 1911, published by E.G. Blankman, where it is labeled Club Road.

By 1865 schoolhouses had been built to serve the communities of Hollywood and Stark in Colton, and at Upper Wick in the town of Parishville, and several saw mills were located in the region. Eventually at Stark there was also a store with postal service, a church and an early bridge across the river at Stark Falls.

Lumbering operations were conducted around Joe Indian Pond, its inlet, and the nearby West Branch of the St. Regis River. Logs were floated down the St. Regis to Parishville or were guided through Joe Indian Pond into the Raquette.

By the end of the Civil War, in communities along the Raquette that later were obliterated by the damming of the river, several small hotels existed, including a hotel near Stark Falls known as Racquette House.

1878 Settlement at Childwold, adjacent to the Raquette in the town of Piercefield, did not occur until 1878. In 1892, the Piercefield Paper and Mining Company began operating a paper mill at Piercefield. This mill on the Raquette was one of the original mills in the later formation of International Paper Company.

1881 Distance from major population centers did not exclude the Raquette Boreal Unit from the rush of wealthy sportsmen who were discovering the attractions of the northern wilderness. More hotels sprang up to accommodate the visiting "sports", and exclusive hunting clubs were formed by outside interests. The Kildare Club, originally known as the

Vanderbilt Club, was founded in 1881 and acquired 10,000 acres of land in Hopkinton's Kildare section, abutting the Franklin County line. Today much of this property remains a private estate.

1884 A map prepared for the New York State Forest Commission documenting forest conditions as of 1884 shows that the only remaining virgin forest in the Raquette Boreal Unit was adjacent to the West Branch of the St. Regis in the Kildare region, northeast of Jordan Lake. Yet extensive stands of hardwoods remained throughout the region, rejected by the early lumbermen who relied on the waterways to transport their forest harvest. Since only the softwood logs would float, it was not feasible to transport hardwood logs until later when rail lines entered the forest.

1894 The community of Holly wood, now submerged beneath the waters of Carry Falls Reservoir, was located on a smooth-flowing section of the Raquette then known as "The Great Bog". In 1894 the Jordan Club was founded and soon purchased a section of land for a seasonal community on the eastern shore of the Raquette at Hollywood. At times when the river was shallow, near the mouth of the Jordan, horses could walk across its bed to the opposite shore, to continue traveling up the Jordan Road.

1896 A State Park Commission, created by the New York State legislature in 1872, commissioned a survey of all Adirondack lands, to be conducted by State Surveyor Verplanck Colvin. A USGS marker on Moosehead Mountain, in the southwest corner of the Raquette Boreal Unit, confirms his presence here in 1896.

1899 A tavern/hotel known as the Hollywood House was built on the Hollywood stillwater of the Raquette, opposite the mouth of the Jordan River, The inn was an overnight stop on the twice-weekly stage that ran between Tupper Lake and Potsdam, a two-day trip at that time. Much later the inn was operated as the Hollywood Dude Ranch.

1910 In the Raquette Boreal Unit, as elsewhere, the danger of fire was an ongoing concern, resulting in construction of fire observation towers on Moosehead Mountain and Catamount Mountain in this time period, with later modifications and the addition of observer cabins.

1916 The Oval Wood Dish Corporation of Michigan purchased extensive acreage in St. Lawrence and Franklin Counties in the Kildare region and soon constructed rail spurs into the Raquette Boreal Unit from its main lines in Franklin County, facilitating harvest of the hardwoods and pulpwood. From Kildare the trains carried the logs to the OWD mill at Tupper Lake. Michael Kudish, a professor at Paul Smith's College, has documented the existence in the Raquette Boreal Unit of several railroad

lines, including penetration to Mount Matumbla in Piercefield and north to the West Branch of the St. Regis River. Kudish also reports that evidence exists that a spur of the Oval Wood Dish railroad extended southwest of McCuen Pond towards the Raquette and across the Jordan River.

1922 A 1922 USGS map, reprinted in 1928, shows numerous lumber camps north of Jordan Lake in the vicinity of the West Branch of the St. Regis.

1924 A logging railroad is constructed this year in Section 34. Improved access by rail and petroleum-powered equipment brought an end to the big log drives on the Raquette about 1924.

About this same time, negotiations were started by Niagara- Hudson Power Corporation, later known as Niagara Mohawk, to acquire lands along the Raquette for construction of a series of hydroelectric generation facilities, dams and reservoirs.

1925 Construction of a concrete highway from Colton to Tupper Lake began in 1925. The new highway was completed six years later in 1931, the same year that International Paper Company shut down its mill in Piercefield.

1934 Hawley Lumber Company began operations at Colton in 1934 and in less than ten years grew to become one of the largest softwood mills in New York State, carrying out extensive lumbering operations in the Raquette Boreal Unit, including lands owned by International Paper Company near Childwold.

1940 The era of river drives becomes history, as transportation of pulpwood along the river highway comes to an end.

1947 This year a bridge is constructed by New York State across the Raquette at Childwold to facilitate the lumbering operations.

1951 In 1951 and 1952 licenses are issued to Niagara Mohawk Power Corporation by the Federal Power Commission to construct a large storage reservoir (3,200 acres) at Carry Falls, and five other power projects along the Raquette in the towns of Colton and Parishville. Carry Falls Reservoir is to be approximately three miles in width and seven miles long. The projects will have an aggregate installed production capacity of about 100,000 kilowatts.

1952 Construction of the Niagara Mohawk projects begins, and five years later the power project is completed. The character of the Raquette is significantly altered in the Raquette Boreal Unit as waterfalls and rapids are dried up or covered up, and new lakes are created behind the power

dams. New roads have been constructed following the river's reconfigured contours, re-routing access to the Joe Indian Pond area, and eliminating much of the old road that traveled through Hollywood.

1990 The bridge across the Raquette at Childwold is removed by the U.S. Army Corps of Engineers.

1999- The New York State Natural Heritage Program begins an extensive study of natural resources in the unit.

1999 The Town of Colton successfully applies for federal grant funds to construct a recreation bridge across the Raquette at the south end of Carry Falls Reservoir.

2002 NYS Natural Heritage completes the first systematic biological diversity survey of the Raquette Boreal forest for DEC to provide current data for the first Unit Management Plan recently initiated for the Raquette-Boreal Unit.

2006 The APA plan for classification of NYS lands in the Raquette Boreal Forest is approved by Governor Pataki.

II. INVENTORY, USE AND CAPACITY TO WITHSTAND USE

A. Natural Resources

1. Physical

a. Geology

Approximately 1.3 billion years ago the Adirondack region was generally flat and covered by sedimentary rock at depths up to 30 kilometers. Extreme heat and pressure at these depths resulted in a layer of metamorphic granite gneiss. Massive domal uplifting followed by the erosion of the soft sedimentary layer left the Adirondack region much higher than the surrounding area. This geologic region, known as the Central Highlands, is part of the Grenville Province, a large area of bedrock which extends along the Appalachian mountains from Labrador to Mexico. (Isachsen, 1991) The arrival of the Pleistocene epoch or "ice age" began approximately 1.6 million years ago. During this time, climates cooled and large glacial ice sheets covered the region. These sheets repeatedly advanced across the region and then retreated north. The last glaciation of the region began around 21,750 years ago and is known as the Wisconsian stage. The Laurentide ice sheet, which covered the region with up to 2 kilometers of ice, retreated around 10,000 years ago. The result of glacial activity is the Adirondack Mountains we know today. Characteristics of this area include gently curved ridges and valleys, long winding eskers, numerous lakes and ponds and radial drainage patterns. (Clarke, 1904)

The broad geological features of the planning area are described by Buddington (1962) as being within the Adirondack Mountain section. The mid to upper watershed of the Raquette is predominantly acidic sedimentary and granitic upland flats mixed with wet flats. The site represents a glaciated peneplain with a gradual west facing slope and low hills at about 900 to 2500 feet in elevation. Most of the Raquette Boreal Unit is characterized by being located within the Childwold Rock Terrace. An outstanding feature of this type is the abundance of sand plains, small lakes and swamps. Its character is resulting from less erodible rocks. The McCuen Pond Syncline is a major structural element and is complex. The central element strikes north, probably turning to the northeast. Another element strikes N 75 degrees W. Rocks in the southern complex of the Raquette Boreal Unit are primarily microcline, granite gneisses; around Sols Island, biotite - microcline granite gneiss's are found. Also, pyroxene skarn and pyroxenie-hornblende gneiss can be found here. An anticlinal structure with a southeast plunge extends southeast from the former site of Hollywood. It consists of pyroxene-microcline-granite gneiss. (Buddington 1962)

Earthquakes have been known to occur within the management area. The Carry Falls earthquake of 1995 had a magnitude of 3.2 and the epicenter was at the Carry Falls Reservoir. This earthquake may be related to water from the reservoir seeping into the rocks.

b. Soils

All soils are formed by the chemical and physical breakdown of parent material. However, like most of the Adirondacks, the soil composition within the Raquette Boreal Unit name is vastly different from the bedrock beneath. The soils within the Raquette Boreal Unit are mostly derived from glacial deposits that have been moved and deposited as glaciers advanced and retreated. Soils across the planning area vary widely in degree of slope, depth to bedrock, stoniness and drainage. General meso-soil maps for the planning area are available from the Adirondack Park Agency. These depict broad soil associations relative to a particular landscape type. The maps portray soil associations as patterns of similar soils based on their properties and constituents. These are useful in the management of large forested areas and watersheds, but are not suitable for planning areas less than 40 acres in size. For specific projects in small areas, such as placement of trails, parking facilities, camping areas, etc., detailed on-site soil surveys may be required.

Soil names are usually reflective of their dominant characteristics followed by a list of minor components and limitations. For example, frequently observed soil series in the Raquette Boreal Unit include:

Adams: Adams soils are very deep, excessively drained soils formed in glacial-fluvial or glacio-lacustrine sand. It is found throughout the landscape, from nearly level deltas and gently sloping outwash plains to steeper sloping terraces and very steep eskers. The rate of surface runoff ranges from very slow to very rapid as the slope increases. Erosion hazard is rated slight but increases with slope and equipment limitations are moderate on steeper slopes. Permeability is rapid or very rapid and the available water capacity is low. This makes Adams a droughty soil that is usually low in available nutrients. Reaction ranges from extremely acidic to moderately acidic throughout the soil profile. Some units of Adams are recognized on the New York listing of Farmland of Statewide Importance, although it is generally best suited for woodland and wildlife uses. Previously disturbed areas which are left idle will support pioneer tree species such as aspen, birch and pine as well as sweet fern and spirea. Forested areas are dominated by maple, beech, spruce and pine. Adams soils are commonly found in association with Becket, Croghan and Naumburgh soils.

Becket: This soil is very deep, well drained and is found on slopes ranging from 3 to 60 percent. Permeability is moderate in the surface and subsoil, and slow in the firm substratum. Erosion hazards and equipment limitations are generally slight, but limitations increase with slope. Reaction is generally strongly acidic. Some units of Becket are recognized on the NY listing of Farmland of Statewide Importance, although

it is generally best suited for woodland and wildlife uses. Principle tree species found on Becket soils include sugar maple, yellow birch, eastern white pine, hemlock, balsam fir and white spruce.

Berkshire: The Berkshire series consists of very deep, well drained soils formed in till. Slopes range from 3 to 75 percent. Forest vegetation includes, beech, yellow birch, sugar maple, red maple, hemlock, red spruce, balsam fir, white pine, white ash and basswood.

Naumburg: The Naumburgh series consists of very deep, poorly and somewhat poorly drained soils formed in sandy deltaic or glaciofluvial deposits. These soils are on low sand plains and terraces on slopes ranging from 0 to 8 percent. Permeability is rapid. Erosion hazard is low due to slope but equipment limitations are moderate. Reaction is strongly acid to very strongly acid. Associated vegetation includes grasses, spirea, spruce, fir, pine, hemlock and some hardwoods such as maple.

Potsdam: The Potsdam series consists of very deep, well drained soils on glacial till plains. Slope varies from 3 to 60 percent and erosion hazard is moderate and increases with slope. Permeability is moderate in the layers above the substratum and slow below. Reaction is strongly acid to extremely acid. Forest vegetation includes, sugar maple, beech, ash, hornbeam, oak, hemlock and white pine.

Tunbridge: The Tunbridge series consists of moderately deep, well drained soils on glaciated uplands. Slope ranges from 0 to 75%. Common tree species include, beech, white ash, yellow birch, sugar maple, white pine, hemlock, red spruce and balsam fir.

c. Terrain/Topography

The topography of the Raquette Boreal Unit is primarily flat to gentle sloping terrain. The unit is devoid of mountains and rugged terrain. Elevations range from 1300' near Joe Indian Pond to approximately 2427' atop Mt. Matumbla.

d. Water

The following rivers within the Raquette Boreal Unit have been designated as scenic rivers under the Wild, Scenic and Recreational Rivers Act. This designation includes a river corridor generally 0.5 miles from each bank on State lands and 0.25 miles from each bank on private lands.

1. Raquette River from the confluence of Dead Creek to Carry Falls Reservoir-13.8miles(ECL §15-2714(2)(w);

2. Jordan River from the outlet of Marsh Pond to Carry Falls Reservoir-18 miles(ECL §15-2714(2)(n);

3. St Regis River (west branch) from the St Lawrence- Franklin Co line to the northern boundary of the unit- 12 miles(ECL §15-2714(2)(cc)

The Natural Heritage report identified the following as a significant water habitat:

Oligotrophic pond- The aquatic community of a small, shallow, nutrient-poor pond. The water is very clear, and the bottom is usually sandy or rocky. Oligotrophic ponds are too shallow to remain stratified throughout the summer; they are winter stratified, monomictic ponds. Additional characteristic features of an oligotrophic pond include the following: blue or green water with high transparency; water low in plant nutrients, low primary productivity and typically low alkalinity. Aquatic vegetation is typically sparse, and species diversity is low. Fish diversity is low, and fish assemblages are generally poorly developed.

e. Wetlands

The wetlands of this unit possess great ecological, aesthetic, recreational and educational value. Wetlands have the capacity to receive, store and slowly release rainwater and meltwater, and 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, a greater diversity of plant and animal species are found in association with most wetlands. For the visitor, expanses of open space provide a visual contrast to the heavily forested setting.

APA Regulated Wetlands GIS data identifies 2239 wetland polygons in the Raquette Boreal Unit with a total wetland area of 1192.6 acres. The largest individual wetland identified is 27.7 acres in size and is associated with the Raquette River.

A recent mapping project completed by the Adirondack Park Agency identifies nine areas in or adjacent to the unit as “Charismatic Megawetlands”. These include, Joe Indian, Stark Falls Bog, Angelfish Bog, Bear Brook Bog, Salisbury Marsh Complex, Windfall Outlet, Jordan Bog, Spring Pond Bog and Two County Bog.

f. Air/Climate

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 water bodies, seasonal temperatures, precipitation, prevailing winds, and the location of natural barriers.

Summers tend to be warm with cool nights. Maximum day-time temperatures seldom exceed 90 degrees F. Frost can occur any month of the year. Temperatures of -40 degrees

F are common, often accompanied by high winds. Annual precipitation is between 40 and 60 inches per year; snowfall ranges from 120-140 inches per year.

Air Quality

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.

In the Adirondack Mountains 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, or begin, 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

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 6,000,000 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 ì eq/L are

considered to be chronically acidic. Lakes with ANC values between 0 and 50 ì eq/L are considered susceptible to episodic acidification; ANC may decrease below 0 ì eq/L during high-flow conditions in these lakes. Lakes with ANC values greater than 50 ì eq/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.

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.

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

There are no LTM waters on or in the immediate vicinity of the unit. Summaries of those ponded waters for other areas of the Adirondacks is available from the Adirondack Long-Term Monitoring (LTM) program. This program samples water chemistry on 52 lakes across the Park on a monthly basis.

2. Biological

In 2002 the New York Natural Heritage Program published a report for the Department title “Raquette Boreal Forest, Rare Species & Significant Ecological Communities”. This report combined with records from the Master Habitat Data Bank (MHDB) identifies eleven notable ecological communities and four rare or endangered animal species and two rare plant species within the Raquette Boreal Unit. Additional information on each is found below.

a. Vegetation

The Raquette Boreal Unit occupies the southern most extent of the transitional zone between the boreal forests to the north and the mixed forests of the south. Although primarily a mixed forest, in excess of 90% of the unit does contain representative pockets of boreal species and ecotypes. Its forests represent a mosaic of plant communities that correspond to local variations in soil, temperature, moisture and elevation.

Past events such as fire, wind and logging have exerted a strong influence on present day conditions. During the early 1900s, when great fires swept across most of the Adirondacks, portions of this unit were not exempt from their destructive powers. Fire, combined with the history of heavy logging activity, introduced adequate sunlight to the forest floor to allow reproduction of shade intolerant species, like black cherry, to occur. Many of those larger trees that managed to escape being harvested for lumber soon fell

victim to natural events. On November 25, 1950, a severe hurricane laid waste hundreds of thousands of acres of forest lands in the Adirondacks. It was estimated that the timber on more than 400,000 acres in the Adirondack region had been seriously affected, with 75-100% of the area within being leveled. Over 33,000 acres of forests within the Raquette Boreal unit were affected. On July 15, 1995 a fast moving thunderstorm of near record proportions passed through the Adirondacks. Strong winds caused extensive damage to nearly 1,000,000 acres of forest land in a triangular area bounded roughly by Governeur, Blue Mountain Lake and Lyons Falls. Approximately 22,000 acres of the unit, mostly along the western edge, were affected. Although the results of these similar events may seem destructive, these wind events are part of the natural processes that shape the forests of the region and they provide opportunities for the establishment of species requiring more direct sunlight than is generally available under the closed canopy of the surrounding forest.

A review of the USGS Land Cover type maps shows the following cover types and approximate percentage on the unit for each;

Deciduous forest (40%)- Predominantly sugar maple, red maple, beech, white ash, yellow birch and aspen. Generally found on uplands.

Evergreen forests (30%)- Predominantly red spruce, black spruce, hemlock, white pine and balsam fir.

Mixed forests (25%)- Mixed forest land includes all forest land where both evergreen and deciduous trees are growing and neither predominates. When more than one third intermixture of either evergreen or deciduous species occurs in a specific area, it is classified as mixed forest land.

Forested wetlands (1%)- Forested wetlands are wetlands dominated by woody vegetation. Forested wetlands include seasonally flooded bottomland, shrub swamps and wooded swamps. Predominant tree species include; red maple, ash, spruce, tamarack and balsam fir.

Nonforested wetlands (1%)- Nonforested wetlands are dominated by wetland herbaceous vegetation or are nonvegetated. Major species include, cattail, rushes, sedges and mosses.

The New York Natural Heritage Program report title “Raquette Boreal Forest, Rare Species & Significant Ecological Communities”, identified the following significant communities within the Raquette Boreal Unit.

Spruce-fir swamp: A conifer swamp often found in drainage basins which are occasionally flooded by beaver. Major tree species include red spruce (Picea rubens), balsam fir (Abies balsamea), white spruce (Picea glauca) and black spruce (Picea mariana). Characteristic shrubs and herbs include mountain ash (Sorbus americana) and wild raisin (Viburnum cassinoides), cinnamon fern (Osmunda cinnamomea), mountain wood fern (Dryopteris campyloptera) and wood sorrel (Oxalis acetosella). There are six

areas of spruce-fir swamp, ranging in size from 5 to 634 acres, on the unit. The State rank for this community is S3.

Spruce-northern hardwood forest: A mixed forest that occurs on lower mountain slopes and upper margins of flats on glacial till. This is one of the most common forest types in the Adirondacks. Major tree species include red spruce (Picea rubens), sugar maple (Acer saccharum), beech (Fagus grandifolia) and yellow birch (Betula alleghaniensis). Common shrubs and ground layer plants include hobblebush (Viburnum lantanoides), Canada yew (Taxus canadensis), wood-sorrel (Oxalis acetosella) and common wood fern (Dryopteris intermedia).An example of this covertype exists in the uplands. The State rank for this community is S4.

Beech-maple mesic forest: A hardwood forest with sugar maple (Acer saccharum) and beech (Fagus grandifolia) codominant. This is a broadly defined community type with several regional and edaphic variants. These forests occur on moist, well-drained, usually acid soils. Common associates are yellow birch (Betula alleghaniensis), white ash (Fraxinus americana), eastern hop hornbeam (Ostrya virginiana), and red maple (Acer rubrum). There are relatively few shrubs and herbs. Characteristic small trees or tall shrubs are hobblebush (Viburnam lantanoides), American hornbeam (Caroinus caroliniana), striped maple (Acer pensylvanicum), witch hazel (Hamamelis virginiana), and alternate-leaved dogwood (Cornus alternifolia).
Dominant groundlayer species are star flower (Trientalis borealis), common wood-sorrel (Oxalis canadense), painted trillium (Trillium undulatum), Canada mayflower (Maianthemum canadense), purple trillium (T. Erectum), shining clubmoss, (Lycopodium lucidulum), and intermediate wood fern (Dryopteris intermedia). Associated herbs include Christmas fern (Arisaema triphyllum) and false Solomon's seal (Smilacina racemosa). There are many spring ephemerals which bloom before the canopy trees leaf out. Typically there is also an abundance of tree seedlings, especially sugar maple; beech and sugar maple saplings are often the most abundant "shrubs" and small trees. Hemlock (Tsuga canadensis) may be present at a low density. In the Adirondacks a few red spruce (Picea rubens) may also be present. Within extensive areas of beech-maple mesic forest, there are often associated small patches of hemlock-northern hardwood forest in steep ravines and gullies where hemlock is locally dominant. The State rank for this community is S4.

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 be codominant. Canopy cover is quite variable, ranging from open canopy woodlands with as little as 20% cover of evenly spaced canopy trees to closed canopy forests with 80 to 90% cover.

In the more open canopy stands there is usually a well-developed shrublayer characterized by several shrubs typical of bogs: leatherleaf (Chamaedaphne calyculata), sheep laurel (Kalmia angustifolia), highbush blueberry (Vaccinium corymbosum),

Labrador tea (Rhododendron groenlandicum), mountain holly (Nemopanthus mucronatus), and wild raisin (Viburnum cassinoides). In closed canopy stands the shrublayer is usually sparse; however the species composition is similar. The dominant groundcover consists of several species of Sphagnum moss, including S. Fimbriatum, S. Girgensohnii, and S. Magellanicum, with scattered sedges and forbs.

Characteristic herbs are the sedge Carex trisperma, cotton grass (Eriophorum spp.), pitcher plant (Sarracenia purpurea), bunchberry (Cornus canadensis), and cinnamon fern (Osmunda cinnamomea). In shady areas where the canopy is dense, gold thread (Coptis trifolia) and creeping snowberry (Gaultheria hispidula) may be found. Vascular plant diversity is usually low in these forested peatlands; however the bryophyte and epiphytic lichen flora may be relatively diverse.

A black spruce-tamarack bog may imperceptibly grade into and form a mosaic with a dwarf shrub bog. As the peat substrate thins and the wetland transitions to terrestrial communities, the black spruce-tamarack bog may grade into spruce flats. The State rank for this community is S3.

Dwarf shrub bog: An ombrotrophic or weakly minerotrophic peatland dominated by low-growing shrubs and peat mosses. A dwarf shrub bog may form a floating mat around a bog lake or along the banks of an oligotrophic stream; it may also occur as a large or small mat completely filling a basin. Dominant shrubs include leatherleaf (Chamaedaphne calyculata), sheep laurel (Kalmia angustifolia) and Labrador tea (Rhododendron groenlandicum). Scattered stunted trees may be present, including black spruce (Picea mariana), tamarack (Larix laricina) and red maple (Acer rubrum). Characteristic peat mosses that form a nearly complete carpet under the shrubs include Sphagnum magellanicum, S. rubellum, and S. fallax. The State rank for this community is S3.

Shrub swamp: 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 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 codominated by a mixture of species, or have a single dominant shrub species.

In northern New York many shrub swamps are dominated by alder (Alnus incana ssp. Rugosa); these swamps are sometimes called alder thickets. A swamp dominated by red osier dogwood (Cornus sericea), silky dogwood (Cornus Amomum), and willows (Salix spp.) may be called a shrub carr. Along the shores of some lakes and ponds there is a distinct zone dominated by water-willows (Decodon verticillatus) and/or buttonbush (Cephalanthus occidentalis) which can sometimes fill a shallow basin.

Characteristic shrubs that are common in these and other types of shrub swamps include meadow- sweet (Spirea alba var. latifolia), steeple-bush (Spirea tomentosa), gray

dogwood (Cornus fomina spp. Racemosa), swamp azalea (Rhododendron viscosum), highbush blueberry (Vaccinium corymbosum) male-berry (Lyonia ligustrina), smooth alder (Alnus serrulata), spicebush (Lindera benzoin), willows (Salix spp.), wild raisin (Viburnum cassinoides), and arrowwood (Viburnum recognitum). More documentation and research is needed to distinguish the different types of shrub swamps in New York. The State rank for this community is S5.

Boreal heath barrens: A dwarf shrubland or shrub-savanna dominated by heath or heath-like shrubs. Boreal heath barrens occur on nearly level outwash plains of the Adirondacks, in frost pockets lying in valleys. Soils are sandy, dry, and poor in nutrients. Boreal heath barrens are seasonally flooded because the soils have a discontinuous subsurface layer of podzolized soil (an orstein), which impedes water drainage.

The dominant shrubs are blueberries (Vaccinium myrtilloides, V. Angustifolium, V. Vacillans), black chokeberry (Aronia melanocarpa), meadow-sweet (Spirea latifolia), and mountain fly honeysuckle (Lonicera villosa). Other characteristic plants include spreading ricegrass (Oryzopsis asperifolia), small ricegrass (Oryzopsis pungens), swamp dewberry (Rubus hispidus), Canada goldenrod (Solidago canadensis), flat-top goldenrod (Euthamia graminifolia), northern tree clubmoss (Lycopodium dendroideum), running pine (Lycopodium digitatum), lichens (Cladonia alpestris, C. Pyxidata, Cladina rangiferina), and mosses (Pleurozium schreberi, Polytrichum commune, and Dicranum spp.). The State rank for this community is S1.

Fir clubmoss (Huperzia selago): Listed as endangered in New York State. Generally found on cool, damp shaded ledges and hillsides, lakeshore swales and conifer swamps. Although this community has not been found within the unit it has been identified in close proximity. The State rank for this community is S2.

Sedge meadow: A wet meadow community that has organic soils (muck or fibrous peat). Soils are permanently saturated and seasonally flooded; there is usually little peat accumulation in the substrate, but must have deep enough peat (usually at least 20cm) to be treated as peatland, otherwise it may be classified as a mineral soil wetland such as shallow emergent marsh. Peats are usually fibrous, not ashagnous, and are usually underlain by deep muck. The dominant herbs must be members of the sedge family (Cyperaceae), typically of the genus Carex.
Sedge meadows are dominated by peat and tussock-forming sedges such as tussock-sedge (Carex stricta), with at least 50% cover. They are often codominated by bluejoint grass (Calamagrostis canadensis) with less than 50% cover, and other sedges (Carex spp., including C. Utriculata, C. Vesicaria, and C. Canescens). Other frequently occurring plants with low percent cover include marsh cinquefoil (Potentilla palustris), sensitive fern (Onoclea sensibilis) manna grasses (Glyceria spp. G. Canadensis), swamp loosetrife (Lysimachia terrestris), hairgrass (Agrostis scabra), marsh St. John's-wort (Triadenum virginicum), water horsetail (Equisetum fluviatile), tall meadow-rue (Thalictrum pubescens), spike rushes (Eleocharis acicularis, E. Obtusa), sweetflag (Acorus americanus), spotted joe-pye weed (Eupatorium maculatum), purple-stem angelica (Angelica purpurea), three-way sedge (Dulichium arundinaceum), and bullrushes

(Scirpus spp.). Sparse shrubs may be present, such as meadow sweet (Spirea alba var. latifolia, S. tomentosa), leatherleaf (Chamaedaphne calyculata), sweet gale (Myrica gale), and alder (Alnus spp.). More data on this community are needed.

Sedge meadows typically occur along streams and near the inlets and outlets of lakes and ponds; they also occur in lake basins as a zone near the upland edge of a shallow emergent marsh. A sedge meadow does not form a floating mat, instead it is covered with water during flooding. When water levels are low, there is little or no open water. The State rank for this community is S4.

Pine-northern hardwoods- A mixed forest that occurs on gravely outwash plains, delta sands, eskers and dry lake sands in the Adirondacks. Dominant trees are white pine (Pinus strobus) and red pine (Pinus resinosa); these are mixed with scattered paper birch (Betula papyrifera) and quaking aspen (Populus tremuloides). In some stands there is an admixture of other northern hardwoods and conifers such as yellow birch (Betula alleghaniensis), red maple (Acer rubrum), balsam fir (Abies balsamea), and red spruce (Picea rubens); these are never common in a pine-northern hardwood forest.

Characteristic shrubs are blueberries (Vaccinium angustifolium, V. Myrtilloides), sheep laurel (Kalmia angustifolia), wild raisin (Viburnum cassenoides) , and shadbush (Amelanchier canadensis).

Characteristic herbs are bracken fern (Pteridium aquilinum), wintergreen (Gaultheria procumbens), trailing arbutus (Epigaea repens), Canada mayflower (Maianthemum canadense), bunchberry (Cornus canadensis), and painted trillium (Trillium undalatum). Mosses and lichens may be common to abundant, especially the mosses *Pleurozium schreberi*, *brachythecium spp.* And *Dicranum polysetum*. The State rank for this community is S4.

Inland poor fen- A weakly minerotrophic peatland. 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. Many “kettlehole bogs” are inland poor fens. The State rank for this community is S3..

Rare Plants

Splachnum, dung moss- (Splachnum ampullaceum)-Moss found in a dwarf shrub bog, it is listed as S2 on the State ranking system. Populations found within the Raquette Boreal Unit are the only two documented populations for the State.

Farwell’s water milfoil (Myriophyllum farwellii)- A threatened plant found in a shallow, slightly acidic, unstratified mesotrophic pond. The Raquette Boreal Unit contains the northern most population of only seven populations known to exist in the State. The State rank for this community is S2

State Ranking System

S1- Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2- Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3- Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4- Apparently secure in New York State.
S5- Demonstrably secure in New York State.

Threats and Management Considerations

The New York Natural Heritage Program report title "Raquette Boreal Forest, Rare Species & Significant Ecological Communities", states the three most significant threats to the long-term viability of the natural communities within the Raquette Boreal Unit are; logging of natural areas, alterations to the hydrology of wetlands and rivers and the continued decline of spruce grouse populations. The report did not identify recreational use, either motorized or non-motorized, as a threat to these communities. However, a thorough assessment of potential impacts associated with these activities would be required to ensure the protection of these resources, prior to any proposed actions to allow them to occur.

Invasive Plant Species

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 Department shares an inherent obligation to minimize or abate existing threats in order to prevent widespread and costly infestations.

The Department 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

An inventory of invasive plant species has yet to be completed for this unit.

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 Department, 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). Additional species located in the Park that are monitored for their potential threat as invasive plants include Variable-leaf milfoil (Myriophyllum heterophyllum), Southern Naiad (Najas guadalupensis), and Brittle Naiad (Najas minor). Other 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 sections of the following waters within or in proximity to the Unit: Clear Pond, Carry Falls Reservoir, and Jordan Lake. No aquatic invasive plants were detected during these surveys. 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

No aquatic invasive plants were documented in the Unit; however variable leaf milfoil (Myriophyllum heterophyllum) was reported in Jenkins Bay in Tupper Lake, only a short distance from the unit. Although native to the United States, variable leaf milfoil can become regionally invasive and is considered an aquatic invasive plant in the northeast. In New York, APIPP considers it a watched species that might grow locally aggressive.

b. Wildlife

Birds

According to New York State Breeding Bird Atlas data, 101 species of birds are believed to breed within the Raquette Boreal Unit (Appendix 3) Some species thought to occur occasionally within the unit are not shown in the Bird Atlas data. Birds associated with marshes, ponds, lakes and streams are numerous and include the common loon, great blue heron, green heron, American bittern, a variety of ducks, Canada goose and shore birds such as the spotted sandpiper. The most common ducks include the American black duck, mallard, wood duck, hooded merganser and common merganser. Birds of prey common to the unit include the barred owl, great horned owl, red-tailed hawk, sharp-shinned hawk, red-shouldered hawk, coopers hawk and broad-winged hawk. Songbirds, such as woodpeckers, flycatchers, wrens, thrushes, vireos, warblers, blackbirds, finches, grosbeaks, and sparrows occupy one or more of the eleven habitat types found in the unit. Bald eagles, a threatened species have been confirmed as nesting within the unit. Spruce grouse, an endangered species, are found in the unit as well.

Mammals

No comprehensive inventory of species is available for the unit, however, Appendix 3 lists mammals whose habitat needs indicate a likelihood that they are present in the Raquette Boreal Unit. Larger mammals known to inhabit the Raquette Boreal Unit include white-tailed deer, moose and black bear. A variety of smaller mammals also reside in the unit. They include coyote, bobcat, raccoon, red fox, gray fox, fisher, mink,

muskrat, striped skunk, river otter, beaver, porcupine, varying hare, bats, shrews, moles, and mice, along with the short-tailed weasel, long-tailed weasel, eastern chipmunk, and red squirrel.

Most species are distributed relatively evenly throughout the unit, although the populations of weasel, mink, muskrat, otter, and beaver are concentrated near water, and the varying hare and red squirrel are mostly confined to stands of spruce and fir.

As the process of forest succession, set in motion by disturbances from wind, insects, disease, past logging and forest fires, continues to alter the composition of forest communities, suitable habitats for those species currently occurring on the unit may change. Populations of certain species may decline or disappear completely from the unit while others may increase or become established as these habitat changes occur. Large areas are presently occupied by young forest stands which became established after disturbance. The widespread die back of beech, caused by the spread of the beech bark disease, continually creates openings in the forest canopy of the unit.

The populations of the varying hare may increase as young stands of spruce and fir grow beneath older stands of white birch and northern hardwoods. Marten thrive under habitat conditions brought about by natural forest disturbances. However, the maturation of climax forest communities may lead to reductions in hare and marten populations. On the other hand, the populations of various species of birds and mammals which require tree cavities for reproduction should increase as forest stands mature.

White-tailed deer are found throughout the Raquette Boreal Unit. Like many Adirondack units, deer populations are likely higher on the periphery of the Forest Preserve portions of the unit adjacent to managed forest lands, than in interior locations. There is often substantial interest in estimating the number of deer occurring within a given land area. White-tailed deer, being highly mobile and well equipped to elude detection, make obtaining accurate estimates difficult in the absence of highly intensive monitoring. Such levels of monitoring are feasible only in specific circumstances, typically on small, well defined landscapes. These situations are the exception rather than the rule. In spite of these realities, there is a benefit in establishing minimum population estimates (MPE's) for various landscapes to help illustrate relative deer abundance. This can be especially useful in comparing deer abundance from one area to another.

In much of the Adirondacks, where deer productivity is relatively low, MPE's can be derived by multiplying the legal buck take estimate by eight. In rough numbers, a minimum population of eight deer (bucks, does and fawns) is required to produce a sustainable buck take of one annually. On better range with higher productivity, the multiplier is somewhat lower. The buck take for the four towns in which the Raquette Boreal Unit is situated declined significantly between 2000 and 2005, averaging 1.6 per square mile (range .95 - 2.0). It is not certain if this decline is related to a decrease in hunting pressure or an actual decline in population. Using a multiplier of eight, the MPE for the area is 12.8 deer per square mile, or an average of 1779 (range1056 -2224) total deer on the 139 square mile unit over the past five years.

The MPE is only derived for a resident (late spring, summer, fall) deer population. Deer numbers present during winter may be substantially different based on migration to established wintering areas on and off the unit. Keeping these factors in mind, comparisons of relative deer densities in other portions of the Adirondacks or other portions of the state, can be made from similarly derived deer per square mile estimates.

Within the unit there are 9 historic winter deer yards identified by the Department in surveys conducted in the 1970s through the 1980s (Appendix 3.) Current studies by ESF (SUNY Environmental Science and Forestry) have provided information on potential deer yards within the unit. A deer yard or deer wintering area is any piece of landscape where deer tend to concentrate during winter. These areas are usually lowland areas covered by forests of spruce and fir which provide thermal benefits and/or mobility advantages during periods of cold and deep snow. Dense conifer cover helps to reduce rapid snow accumulation, provides shelter from winds, and limits radiational cooling during the evening. South-facing slopes are also used by wintering deer, where lower snow accumulation and favorable sun exposure provide similar benefits. Better quality deer yards also have adjacent regenerating hardwood components which provide available woody browse during milder conditions.

In the Adirondacks, deer use the same yarding areas annually, although the precise boundaries change over time with succession. Deer use within yarding areas will also change annually in response to winter severity. Severe winter weather virtually confines deer to wintering areas for long periods during which the depletion of available browse can lead to high deer mortality. Severe decline in the deer population can be traced directly to adverse winters. The carrying capacity of deer wintering areas limits the carrying capacity of the entire annual range of the deer population. 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. Management of forest stands to allow for strips of thick coniferous vegetation to be left in historic winter deer yards (see attached map), can provide winter habitat for white-tailed deer.

Amphibians and Reptiles

Relatively short summers and the long, cold winters of the Raquette Boreal Unit limit the number of species of reptiles and amphibians. Two species of turtles, four species of snakes, three species of salamanders, one species of toad and seven species of frogs are believed to be residents of the Raquette Boreal Unit(Appendix 3). Species found in marshes or ponds and along wooded streams include the following: turtles - snapping, painted; snakes - redbelly, common garter, smooth green, ringneck; toad - American; salamanders - spotted, dusky and redback; frogs - bullfrog, green frog, mink frog, wood frog, pickerel frog and spring peepers.

A few species can be found under logs and leaf litter on the forest floor or in forest openings. These species do not require moist surroundings to survive: snakes - ringneck, smooth green, common garter; salamanders - redback.

Endangered, Threatened, Species of Special Concern and Other Unique Species

Bald eagle (Haliaeetus leucocephalus)
Bald eagles have nested in the Raquette Boreal Unit since the late 1990's. The area provides undisturbed habitat near lakes and reservoirs, marshes and swamps and stretches along rivers where eagles can nest near open water and find their primary food, fish. Hydroelectric plants in the unit provide suitable wintering habitat for bald eagles as well, by maintaining open water areas for feeding in the winter months. Open water areas can attract waterfowl and provide the eagles access to fish. Prior to the 1900s, eagles used as many as 80 nest sites in New York, mainly in the northern and western parts of the state. By 1976 only one pair of nesting bald eagles remained in New York State as a result of pesticide use, habitat loss and predation by humans. Subsequent regulation of pesticides, combined with hacking and habitat protection have resulted in the repopulation of bald eagles in New York State, with the number of nesting bald eagles in the state topping 100 occupied pair in the 2006 nesting season, (although many of the nests failed to produce any young). Bald eagles show a great deal of fidelity to their nesting sites and wintering grounds. Bald eagle nests are monitored by wildlife staff and eaglets are banded at approximately 6-8 weeks of age. Prey remains or unhatched eggs found in the nest are collected and may be analyzed by the lab. The Department reserves the right to post a buffer zone around the perimeter of the nest site if human disturbance becomes a factor.

It is the Department's recommendation that no white pine trees 25" dbh or greater be cut within ½ mile of the Raquette River shoreline. These super-canopy white pines provide excellent nesting potential for bald eagles.

Spruce Grouse (Falcipennis canadensis)
The Raquette Boreal Unit provides habitat for one of less than 30 small, isolated populations of spruce grouse found in the Adirondacks. Several factors have been cited as likely reasons for the decline of spruce grouse in the Adirondacks. Of particular importance are 1) the harvesting of spruce and tamarack primarily in the late 1800's and early 1900's along with possible subsequent hardwood regeneration, 2) the flooding of spruce bog areas for creation of large wetland/reservoirs for log drives, 3) widespread mortality of spruce and tamarack in the late 1800's due to unknown causes, 4) direct mortality from shooting which is made easy due to the species inherent tameness, and 5) most recently, local extirpations due to the small and isolated nature of remaining populations (Bouta and Chambers 1990). Accidental shooting and local extirpations probably continue to threaten the remaining spruce grouse populations in the Adirondacks. In addition, most spruce grouse studies confirm that this is a species that achieves its highest population densities in early and mid successional aged forests (Chambers undated) and there is evidence that some of the sites where grouse have appeared to been extirpated are sites where the spruce forest has advanced beyond the younger stages preferred by spruce grouse (Bouta 1991). Forest stand management is not allowed on forest preserve lands, though a use reservation by The Nature Conservancy provides for vegetation management strictly for the purpose of managing spruce grouse on the 949 acres of forest preserve lots 55 and 56, acquired from Lassiter, Inc(see B.3.

Deed Restrictions and Reservations). Timber harvest plans on easement lands should take spruce grouse into consideration where possible. Maintaining low to mid successional coniferous stands adjacent to water and making a concerted effort to educate the public in identification and natural history of the spruce grouse should prove beneficial to the species. A map of potential spruce grouse habitat can be found in Appendix 13.

Common Loon (Gavia immer)
The common loon is a long-lived species with a sizeable population, however it faces many problems such as shoreline development, acid precipitation, lead and mercury poisoning and human disturbance. Loons are found commonly on ponds, lakes and rivers within the Raquette Boreal Unit. Because of the lack of shoreline development and human disturbance on many of these bodies of water, the potential for high breeding success exists in this area.

Extra-striped snaketail (Ophiogomphus anomalus)
This dragonfly occurs on large and medium, clear, rocky, rapid flowing rivers (Donnelly 1999, Dunkle 2000). Adults apparently spend the majority of their time in treetops away from the water, but can occasionally be found perched on bushes near the tree line bordering riffles (Dunkle 2000). This dragonfly is listed as a species of special concern due to the small number of locations in which it can be found.

Brook snaketail (Ophiogomphus aspersus)
While this species is considered rare throughout most of its range and is sensitive to water quality degredation, limited information and survey efforts suggest that it is not uncommon in the Adirondacks where small streams remain clean and not impacted by development and agriculture.

Forcipate emerald (Somatochlora forcipata)
This uncommon dragonfly inhabits small spring-fed streams, rivulets, or pools located within bogs or sometimes alder swamps (Walker 1958, Dunkle 2000). The status of this species is unlisted in New York State.

Typical Adirondack Species

There are a number of wildlife species found in New York State whose habitat requirements include extensive areas of forest cover relatively undisturbed by human development. Appendix 3 contains lists of species which may be found within the Raquette Boreal Unit.

c. Fisheries

Aquatic resources within the boundary of the planning area consist of a few small ponds and small streams along with a few larger streams, rivers and impoundments. These waters lie entirely within the Raquette River watershed, as defined by the NYSDEC Bureau of Fisheries.

Fish communities in these watersheds were historically characterized primarily as Adirondack brook trout communities. These communities included brown bullhead, white suckers and native minnows, as well as brook trout. Environmental perturbations associated with resource extraction, hydropower development and indiscriminate stocking have resulted in many communities dominated by warmwater and non-native species.

Geological History

The Fishes of the Adirondack Park, 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, lacustrine species closely followed the retreat of the glacier. Such species presumably had access to most Adirondack waters. About 13,000 B.P. (before present) glacial Lake Albany, with a surface elevation averaging 350' above sea level, 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.

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, higher elevation sections. Chance and variability in habitat would have complicated the trends. Consequently, a diversity of fish communities, from no fish to monocultures to numerous species, occurred in various Adirondack waters.

Human Influences

Impacts of Fish Introduction

"... the one outstanding reason why so many of the lakes, ponds and streams of this and other Adirondack areas are now unfit for the native species is that small-mouthed bass, perch, northern pike and other species of non-native warmwater fishes have been introduced" (1932 Biological Survey of the Upper Hudson Watershed). The decline in brook trout associated with the introduction of other fishes is a result of both predation and competition for food. Brook trout feed primarily on invertebrates. Many other fishes, including white sucker, longnose sucker, redbreast sunfish, pumpkinseed, brown bullhead, yellow perch, and the cyprinids (minnows, shiners, and dace) also feed

primarily on invertebrates (Scott and Crossman 1973). In low fertility waters such as Adirondack ponds, competition for such forage can be intense.

In addition to competing with brook trout for food, many fishes prey directly on brook trout. Northern pike, largemouth bass, smallmouth bass, and rock bass are highly piscivorus. Species which may feed on eggs and/or fry include yellow perch, brown bullhead, pumpkinseed, creek chub, common shiner, white sucker and longnose sucker (Scott and Crossman 1973). The relative importance of competition versus predation in the decline of brook trout is not known for individual waters, but the result is the same regardless of the mechanism.

Competition and predation by introduced species has greatly reduced the abundance of brook trout sustained by natural reproduction. Netting has shown only about 40 (10%) of the traditional brook trout ponds in public ownership in the Adirondack Park now support viable, self-sustaining brook trout populations, and they are subject to reproductive failure as other fishes become established.

Fish Community Changes

A variety of nonnative species were distributed into the Adirondack uplands via stocking efforts described by George (1980) as *"nearly maniacal"*. He notes that many species were *" ... almost endlessly dumped upon the Adirondack upland."* Nonnative species were introduced and the ranges of native species, which previously had limited distributions, were extended. The result has been a homogenization of fish communities. Certain native species, notably brook trout and round whitefish, have declined due to the introduction of other fishes. Other natives, brown bullhead and creek chubs, for example, are presently much more abundant than ever historically, having been spread to many waters where previously absent. Consequently, fish populations in the majority of waters in today's Adirondack wilderness areas have been substantially altered by the activities of mankind. Indeed, of the 1,123 Adirondack ecological zone waters surveyed by the Adirondack Lakes Survey Corporation (ALSC), 65% contained nonnative species.

Habitat Changes

Natural reproduction by brook trout is also very sensitive to impacts from sedimentation caused, for example, by extensive logging, fires and other human activities. Due to their reproductive behavior, brook trout are among the most susceptible of all Adirondack fish fauna to the impacts of sedimentation. Brook trout spawn in the fall, burying their eggs in gravel. Flow must be maintained through the gravel, around the eggs, until hatching the following spring. Sand or fine sediments restrict flow around eggs resulting in an inadequate supply of oxygen.*"Streams that were once natural trout streams may have become unfit for trout through lack of shade and the drying up of the fountain head during a part of the season, caused by lumbering operations"* (Report of the Commissioners of Fisheries, Game and Forests, 1896). The threat to trout populations from the loss of shade on streams can still occur when best management practices are not adhered to. The long incubation period, the lack of care subsequent to egg deposition and burying of the eggs contribute to the brook trout's susceptibility to sedimentation. Most

other Adirondack fishes are spring spawners, yielding short incubation periods, and do not bury their eggs. Various strategies further minimize vulnerability to sediments, such as eggs suspended from vegetation (e.g. yellow perch, northern pike, and certain minnow species) and fanning the nest during incubation (e.g. bullhead, pumpkinseed, smallmouth bass and largemouth bass). In general, the species less susceptible to sedimentation have thrived during the recent history of the Adirondacks.

3. Visual/Scenic Resources

Much of the beautiful scenery of the Raquette Boreal Unit can be encountered along the waterways. The 3,000 acre Carry Falls Reservoir is readily accessible by boat, offering panoramic views of gently sloping adjacent hills. During drawdown periods, exquisite sandy beaches are revealed along the shorelines. For the whitewater enthusiasts, the 15 mile stretch of the Raquette River from Piercefield to Carry Falls is one of the premier routes in the state. The scenery is spectacular along this route with virgin white pine and hemlocks along the riverside. The Jordan River east of the Lassiter Main Haul Road provides a true boreal forest experience as it meanders thru forests of balsam fir, tamarack and black spruce, as well as a variety of wetlands, all more characteristic of northern Canadian boreal forests than the northeast US. Elsewhere in the unit, once beyond the open waters and wetlands, the land is generally too wooded and the topography too gentle to provide scenic vistas.

4. Critical Habitat

The following locations within the Raquette Boreal Wild Unit have been identified as important wildlife habitats:

- Deer Wintering Areas-Historic deer wintering areas, surveyed in the early 1970's, existed along the Jordan River, south of Joe Indian Pond along Kildare and Joe Indian outlets. Also, notable historic wintering areas existed northwest of Amber lake and along the west branch of the St. Regis River. Appendix 3 contains a map of historic deer yards.

- Common Loon: Loon nesting success has been documented.

- The Raquette Boreal Forest includes all or portions of approximately 30% (9 of 29) of the sites which are thought to still support the endangered spruce grouse in New York State. Included among these nine sites are several sites that appear to be among the best remaining sites for the species in the state. The number of sites and their close proximity to one another undoubtably makes the Raquette Boreal Forest one of the most important areas in the state with regard to the preservation and possible recovery of spruce grouse populations in New York State. The spruce bog complexes that support the spruce grouse also support populations of a

number of other uncommon, boreal specialist bird species that, in New York State, are restricted to the Adirondacks including palm warbler, gray jay, black-backed woodpecker, boreal chickadee, yellow-bellied flycatcher, and olive-sided flycatcher.

- The Raquette River is one of just four rivers in the state currently known to support the state Special Concern extra-striped snaketail dragonfly.

B. Man-Made Facilities

ROADS

Raquette River Wild Forest

Name:	Miles
Lassiter Main Haul Road (2 sections) (Lassiter ROW)	3.2
Jamestown Falls Road (Rt 56 to Raquette River) (subject to private rights by club at Jamestown Falls)	0.3

Raquette-Jordan Boreal Primitive Area

Name:	Miles
Kildare Club Road	1.3
Lassiter access road to Lot 48	1.3
Lassiter Main Road to Tupper Lake	0.2
Smiths Island Rd. (Pvt ROW)	0.2

Table 1. Forest Preserve Roads Summary

Road Name	**Mileage**	**Miles open to public in 1972**	**Miles open to public in 2006**	**Miles open to public post UMP**
Lassiter Main Haul Road(N) (RBWF)	2.0	1.35	0	0.0
Lassiter Main Haul Road(S) (RBWF)	1.2	0	0	0
Jamestown Falls Road (RBWF)	0.3	0.3	0.3	0.3
Bear Brook Road (RBWF)	3.7	3.7	0	0
Kildare Club access (pvt ROW) (RJBPA)	1.3	1.3	0	0
Potter Brook Road (Lassiter ROW)(RJBPA)	1.3	0.4	0	0
Lassiter Tupper Lake Road (RJBPA)	0.2	0	0	0
Smith's Island Access (pvt ROW)(RJBPA)	0.2	0	0	0
Total miles Raquette River Wild Forest	**7.2**	**5.35**	**0.3**	**0.3**
Total miles Raquette-Jordan Boreal Primitive Area	**3.0**	**1.7**	**0**	**0**

Lassiter Easement

Name:	Miles
Lassiter Main Haul Road (White Hill to FP Boundary Lot 6)	9.3
Hill 19 Loop	4.0
Buck Pond Road	0.5
Bear Brook Road	1.5
Main Road to Tupper Lake (Main Haul Rd. To Lot 55)	6.9
Potter Brook Road (west spur)	0.5
Potter Brook Road (east spur)	0.8
IP Connector Road	0.9
Total	**24.4**

Conservation Fund Easement
Administrative access only

Name:	Miles
River Road (Rt 3 to Town Line)	11.1
Windfall Pond Rd.	3.4

IP Easement
Subject to annual agreement with fee holder for public use.

Name:	Miles
Pine Point Rd. (SH 3 to FP boundary)	0.3
Flat Rock Rd.(SH 3 to FP boundary)	0.4
Bridge Rd. (SH 3 to FP boundary)	1.1

SNOWMOBILE TRAILS

There is only one snowmobile trail located on the unit. The Bear Brook Snowmobile Trail runs from Carry Fall Reservoir east to the Lassiter Easement boundary. Shortly after crossing the Lassiter Main Haul Road the trail intersects the Bear Brook Road and follows the road to the easement line.

Table 2. Forest Preserve Snowmobile Trail Summary

Trail Name	**Mileage**	**Miles open to public use 72'**	**Miles open to public use 2006**	**Miles open to public use post UMP**
Bear Brook Snowmobile Trail	4.0	4.0	4.0	0

FOOT TRAILS

Bear Brook Trail	Miles
(Carry Falls Reservoir east to Easement line)	4.0
Jordan River Canoe Carry	1.5
Rt. 56 canoe carry (Rt. 56 to Raquette River)	0.25

BOUNDARY LINES

Forest Preserve	87.78 miles
Lassiter Easement	46.9 miles
Conservation Fund Easement	29.43 miles
IP Easement	22.58 miles
Niagara Mohawk Easement	5.4 miles

Boundary line mileage is approximate based on available GIS information.

GATES
3- IP Easement
Numerous private gates on easement lands.

BRIDGES
Lassiter Main Haul Rd.- Jordan River

PRIVATE HUNTING CAMPS
Raquette-Jordan Boreal Primitive Area:
South of Raquette River- 13 (All should have been removed by 12/2004.)
North of Raquette River- 4 (Rights expire 12/31/2025)
Lassiter Easement- 30(Can remain in perpetuity, though exclusive hunting rights expire 12/31/2019)
Conservation Fund Easement -7 (Can remain in perpetuity)
IP Easement -7 (IP retained the right to have up to 20 camps in perpetuity)

C. Past Influences

1. Cultural

The Raquette Boreal Unit has been an important part of the cultural heritage of New York State. Prior to the 1900's, cultural influences in this area were probably limited to that of Native Americans and trappers and fur traders. The influence of Native Americans in this area was likely limited to hunting parties as no evidence of Native American settlements exist on the area. Much of the existing Forest Preserve Lands, once mostly owned by large timber companies, were leased to individuals and groups for use as traditional hunting camps in the late 1800's and 1900's. Leases still continue on some of the easements lands which are part of this unit.

2. Archeological and Historical

The term cultural resources encompasses a number of categories of human created resources including structures, archaeological sites and related resources. The Department is required by the New York State Historic Preservation Act (SHPA) (PRHPL Article 14) and State Environmental Quality Review Act (ECL Article 8) to include such resources in the range of environmental values that are managed on public lands. The Adirondack Forest Preserve was listed as a National Historic Landmark by the National Park Service in 1963. This designation also results in automatic listing in the State and National Registers of Historic Places.

Structures within the Forest Preserve, in general, are limited to those recreational facilities and administrative facilities listed as conforming structures in the Adirondack

Park State Land Master Plan. A minimum number of structures for public and administrative use is important to maintaining Forest Preserve lands as wild forest lands. Often those that remain are structures that relate to the Department's land management activities such as fire towers, "ranger" cabins and related resources.

Archaeological sites are, simply put, any location where materials (artifacts, ecofacts) or modifications to the landscape reveal evidence of past human activity. This includes a wide range of resources ranging from pre-contact Native American camps and villages to Euro-American homesteads and industrial sites. Such sites can be entirely subsurface or can contain above ground remains such as foundation walls or earthwork features.

The Department arranged for the archaeological site inventories maintained by the New York State Museum and the Office of Parks, Recreation and Historic Preservation to be searched in order to identify known archaeological resources that might be located within or near the unit. The two inventories overlap to an extent but do not entirely duplicate one another. The purpose of this effort was to identify any known sites that might be affected by actions proposed within the unit and to assist in understanding and characterizing past human use and occupation of the unit.

The quality of the site inventory information varies a great deal. Very little systematic archaeological survey has been undertaken in New York State and especially in the Adirondack region. Therefore all current inventories must be considered incomplete. Even fewer sites have been investigated to any degree that would permit their significance to be evaluated. Many reported site locations result from 19th century antiquarian information, artifact collector reports that have not been field verified. Often very little is known about the age, function or size of these sites. This means that reported site locations can be unreliable or be units that encompass a large area. Should systematic archaeological inventory be undertaken at some point in the future it is very likely that additional resources will be identified. The search of known archeological sites showed none existed on the unit or within five miles of the unit boundary.

D. Economic Impact

Besides its many intrinsic values, the Adirondack Forest Preserve is an important economic asset for the region. Both indirectly, as a powerful attraction to tourists and a positive influence on private land values, and directly in terms of property tax payments to local governments, the Forest Preserve makes substantial contributions to the local economy. While some Forest Preserve visitors are serious hikers, hunters and anglers who spend all their time on state land, most are day users who consider a Forest Preserve outing just one of many reasons to take a trip to the Adirondacks. They may combine a walk on a trail with visits to local shops and restaurants and an overnight stay at an inn or motel. Others are drawn to the area simply to enjoy the impressive mountain scenery of Forest Preserve lands. Though these visitors may never set foot on a trail, the contribution that they make to the local economy is partly due to the existence of the Forest Preserve.

While it is clear that the indirect effects on tourism and private land values in the Adirondack region that result from the existence and use of the Forest Preserve are substantial, they are understood only in general terms. To assist in improving local and regional planning, research is needed to more accurately characterize and quantify indirect economic effects. On the other hand, the economic benefits directly conferred on the region by the payment of property taxes can be more closely quantified. According to a law passed in 1886, now §532A of the Real Property Tax Law, "All wild or forest lands belonging to or which may hereafter be acquired by the State . . . shall be assessed and taxed at a like valuation and at a like rate as those at which similar lands of individuals within such counties are assessed and taxed." The New York State Office of Real Property Services (formerly Equalization and Assessment) has provided a projection of all taxes paid on all state land and conservation easement lands, in 2004, within the Towns of Piercefield, Colton, Parishville, and Hopkinton.

Colton: $1,391,442.	Hopkinton: $283,387.
Parishville: $207,270.	Piercefield: $602,396.

The pursuit of wildlife provides substantial economic income to the state and local communities throughout New York. The expenditures of sportsmen who hunt or trap are important to New York's economy. Research specific to the Raquette Boreal Unit has not been conducted. However, expenditures by those who hunt and trap within the unit for licenses, equipment, firearms, ammunition, gasoline, lodging, meals and a variety of other purposes infuse money into the local economy. The value of the meat or hides obtained further adds to the value. Besides the value for hunting and trapping, wildlife attracts people for a variety of other uses, such as hiking, bird watching and photography. People pursuing these activities infuse considerably more money into the state and local economy.

Taxes paid on conservation easement lands are split between the fee holder and the State. Taxes are based on the value of the rights acquired and what percentage of the total value of the property that represents.

E. Public Use

1. Land Resources

Current use levels on the unit are relatively low, likely due to the lack of public motor vehicle access to the periphery of the unit. Some hunting and fishing occurs on Forest Preserve lands from lessees on adjoining easement lands. Camping occurs along the shore of Carry Falls Reservoir, especially when summer water levels permit beach camping, though camping on the beaches is not permitted by the fee holder of those lands.

a. Camping

Currently there are no designated tent sites located on the unit. Camping is permitted on Forest Preserve lands as well as the Lassiter and Niagara Mohawk easement lands in accordance with 6NYCRR§190.3. These regulations prohibit camping within 150' of any road, trail, stream, spring or pond except at those sites designated by the Department or by permit.

Brookfield Power operates the Parmenter Campground on the west side of the reservoir, but that is completely under their control, and is operated as required per the Federal Energy Regulatory Commission licensing agreement that allows Brookfield to operate their hydro-electric generating facilities on the Raquette.

b. Mountain Biking

The extent of any mountain biking on this unit is unknown, however it is likely minimal if it occurs at all. If in the future the use of mountain bikes should increase within the unit, additional signage along Primitive Area boundaries will be required as many of the existing roads and trails on this area continue into the adjoining primitive area. The use of mountain bikes on this unit occurs under 6NYCRR Part 196.7[e], which states, "The operation of bicycles is permitted on all roads and trails on Adirondack forest preserve wild forest areas except for those roads and trails posted as closed to bicycle operation". The use of mountain bikes is permitted on any road or trail on easement lands unless the trail is specifically posted against such use.

c. Snowmobiling

The Bear Brook Trail is the only existing designated snowmobile trail on Forest Preserve lands within the unit. The trail runs from Carry Falls Reservoir to the Lassiter Main Haul Road and then east across Forest Preserve to the Lassiter Easement. The trail receives only occasional use as it does not provide a connection to any other existing trails.

d. Motorized Access

Currently the only public access by motor vehicles on the unit is on the Jamestown Falls Rd. Historically, some public use of roads on the older Forest Preserve lots occurred with the use of dootle bugs and trucks. These vehicles were left on lands near the Carry Falls Reservoir and were accessed by boat.

There are administrative access roads across private lands adjoining the Lassiter Easement. Lassiter has access rights over these private lands as does the Department for administrative purposes but not for general public access. Public motor vehicle use is

permitted by the Lassiter easement agreement on roads that existed at the time the agreement was signed or by mutual consent of Lassiter and the Department.

The Lassiter Main Haul Road, as well as the Potter Brook Road, cross Forest Preserve lands and are the only access used by Lassiter to access parcels of their lands. There is no deed language documenting legal access, nor is there clear prescriptive rights, so there is some question as to the legal right Lassiter, Inc. has to use these roads. One or both may be able to establish such rights by "way of necessity" since the original access to at least the western tract may have been across the Raquette River.

The opening of public roads to ATV use is governed by Vehicle and Traffic Law §2403 and §2405. Vehicle and Traffic Law §2405(1) provides in part that a State agency may open roads under its jurisdiction to ATVs by rule or regulation where it determines that it *"is otherwise impossible for ATVs to gain access to areas or trails adjacent to the highway."* This provision contains similar requirements for municipalities which open public highways to ATVs. Recent cases interpreting the statute's municipal requirements have clarified that a municipality opening a public highway to ATV traffic must make a specific finding that the purpose of opening the road is to provide ATVs with access to areas or trails adjacent to the highway which are otherwise impossible to access. See, e.g. Santagate v. Franklin County, Supreme Court, Franklin County, Index No. 99-2; and Brown v. Pitcairn, Supreme Court, St. Lawrence County, Index No. 114295 (August 19, 2003). There are currently no areas or trails adjacent to roads in the unit which are legally open for ATV, so therefore there are no roads which can meet the criteria in V&T §2405 which would allow a road to be designated open to ATV use. ATVs are used on easement lands in the unit by leaseholders, per the conditions of their lease agreement with the landowners.

e. Hiking

Very little hiking occurs within any portions of the unit that is not associated with other recreational activities. The lack of mountain peaks, scenic vistas or other hiking destinations apparently limits the public's interest in hiking in this unit.

f. Canoeing and Kayaking

The 15 mile stretch of the Raquette River from Piercefield Flow to Carry Falls Reservoir offers one of the more challenging white water trips in the state. Access to the Raquette River can be obtained at various locations along Route.

1. In the hamlet of Piercefield, access is obtained by turning off Route 3 onto Main Street on the north side of the hamlet of Piercefield. Proceed approximately 0.10 mile to a parking area on the left and put in at the beach. This site is located on private lands.

2. Where Dead Creek crosses Route 3, recreationist can put in at this location and paddle to the river. A DOT parking area is located on the south side of SH 3 adjacent to Dead Creek.
3. Three IP roads off Route 3 allow seasonal public foot access to the river on a yearly basis. These access points are not signed nor maintained as Department water access sites;

- Right of way just east of Hamlet of Childwold on Route 3;
- Right of way southeast side of Dead Creek off Route 3;
- Flat Rock road just north of Sols Island off Route 3.

For paddlers looking for calmer waters, Carry Falls Reservoir offers a unique opportunity. Put-in locations are found at the main dam or at parmenter campsites, operated by Brookfield Power. A Department water access site is located at the end of the Jamestown Falls Road providing access to the Raquette River below the falls.

For the hardier canoeist looking for a back country excursion, one might consider the Jordan River. There are two trail options which provide access to the Jordan from Carry Falls Reservoir. The old state trail starts at the edge of Carry Falls Reservoir approximately one mile north of the mouth of the Jordan at Little Cold Brook. Approximately 1.4 miles long, this trail will lead to a stillwater section of the Jordan. One can paddle upstream from there in the stillwater sections. The second option is a recently signed trail which follows an old Jeep trail across lands recently acquired from Niagara Mohawk. This trail was signed by Brookfield Power as part of their FERC licensing agreement, which includes a settlement agreement with various parties, including DEC, which called for establishment of certain recreation facilities on the former lands of NiMo. This trail starts just north of the mouth of the Jordan River, and ends at the Lassiter Main Haul Rd. just north of the bridge over the Jordan River. The river east from the bridge is generally stillwater punctuated by beaver dams, while downstream from the bridge there is significant whitewater, including Tebo Falls. For those wishing to test white water skills, paddling the rapids downstream from here should only be done during periods of high water. At Tebo Falls, rapids are rated Class IV - V. It is a potentially dangerous section and should be considered only by the experienced. The Department also has an agreement for a canoe carry across the Jordan Club beginning near the mouth of the Jordan River. However, this route is not necessary at this time as the existing carry is adequate.

g. Use Restrictions

Lassiter Easement Lands- Public hunting is not allowed on the Lassiter Easement Lands during the period from September 1 thru December 31 of each year. This restriction will run through December 31, 2019.

h. Projected Use

It is clear we have limited capabilities to project the level of use in wild lands or wilderness areas. A handful of studies are in agreement that use of such lands will increase, but they do not agree on the projected rates of increase. All studies have predicted the steady, slow to modest increases seen in the last twenty to forty years. The greatest difficulty in projecting future use is due to the limited current and past use information, as past use is the basis for estimating future use. (Hendee and Dawson 2002). These same limitations are true for all wild lands including the Raquette Boreal Unit, thus emphasizing the need to collect this data.

In general, the demand for recreation will grow as human populations increase. Regional, national and international economic and political factors may affect the choices people make about what recreational activities to pursue. For instance, economic recession and increases in international tension could influence people in large northeastern cities to refrain from long-distance travel and pursue more local recreational activities, such as hiking and camping. Other factors, such as the aging of the American population, may lead to higher demand for more accessible recreation and lower demand for activities requiring physical exertion, such as back country hiking and camping. The following table, based on the National Survey on Recreation and the Environment, illustrates national recreation trends for certain activities from the past 20 years. These national trends, combined with the publishing of UMP's and the Department's increasing use of the internet to provide information and promotion of the Adirondacks in general as a tourist destination, will likely result in a steady increase in use of the Raquette Boreal Unit.

Table 3: Millions and Percentage Change of Persons 16 Years or Older Participating at Least Once in 12 Months in Certain Outdoor Recreational Activities in the United States, 1982-83, 1994-95 and 2000. (NSRE)

Activity	Number in Millions 1982-83	Number in Millions 1994-95	Percent Change from 1982-83	Number in Millions in 2000	Percent increase from 1994-95
Hiking	24.7	47.8	+93.5	69.7	45.8
Backpacking	8.8	15.2	72.7	22.8	50.0
Primitive Camping	17.7	28.0	58.2	31.5	10.3
Horseback Riding	15.9	14.3	- 10.1	21.1	47.5%
Snowmobiling	5.3	7.1	34	10.5	47.9

Cross Country Skiing	5.3	6.5	+22.6	7.9	0.215
Kayaking	na	.702	na	1.304	85.6
Canoeing	na	4.277	na	5.150	20.4

2. Wildlife

a. Hunting
The Raquette Boreal Unit provides an opportunity for a variety of hunting opportunities. It is located within Wildlife Management Unit 6F. Wildlife related usage has historically centered around big game hunting, primarily for deer, although bear hunting, small game hunting and fur-bearer trapping are also prominent. One of the most popular hunting periods in the unit is during the early season for black bear. During the regular big game season, the pursuit of Adirondack white-tailed deer draws hunters to the area. Due to lack of public access most hunting on the unit is from leased camps on adjoining easement lands.

Big Game Totals
Deer and bear harvests for the unit can be extrapolated from town data, and estimated based on the percentage of the total town area occupied by the Raquette Boreal unit. The four towns in which the unit is located (Colton, Hopkinton, Parishville and Piercefield) occupy 655 square miles, while the unit covers approximately 139 square miles, or 21% of the total. The tables below show the estimated bear and deer takes for the unit over the past 6 years:

Table 4: Bear Harvest 2000-2005

	Colton	Hopkinton	Parishville	Piercefield
2000	16	17	0	13
2001	11	12	4	10
2002	22	13	2	16
2003	21	18	19	10
2004	12	22	4	7
2005	2	13	2	2

Table 5: Deer Harvest 2000-2005

		Colton	Hopkinton	Parishville	Piercefield
2000	buck take	426	332	384	79
	total deer	562	437	532	91
2001	buck take	372	308	320	78
	total deer	461	462	538	85
2002	buck take	348	276	329	112
	total deer	479	422	559	136
2003	buck take	248	225	257	71
	total deer	338	363	462	88
2004	buck take	163	164	196	40
	total deer	214	258	342	58
2005	buck take	181	179	173	49
	total deer	225	302	298	66

Small Game Hunting and Trapping

Fur-bearer harvest can be estimated for the unit to illustrate the presence of several species. Trapping effort is known to vary somewhat annually in response to weather conditions and pelt prices, particularly in areas with low resident human densities (e.g. trappers will not travel as far when prices are low). Thus, the estimates below cannot be used for population trend purposes, but rather for indication of presence.

Table 6: Beaver Harvest 2000-2005

Town	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Colton	262	104	128	84	171	59
Hopkinton	130	12	33	35	96	41
Parishville	71	99	71	45	136	17
Piercefield	42	6	24	19	45	9

Table 7: Otter Harvest 2000-2005

Town	2000	2001	2002	2003	2004	2005
Colton	26	10	33	10	4	8
Hopkinton	1	0	6	3	8	1
Parishville	2	3	14	12	14	5
Piercefield	9	3	7	3	10	0

Table 8: Bobcat Harvest 2000-2005

Town	2000	2001	2002	2003	2004	2005
Colton	1	2	1	0	5	2
Hopkinton	4	4	1	5	3	0
Parishville	0	2	2	0	1	1
Piercefield	1	2	0	0	0	0

Table 9: Fisher Harvest 2000-2005

Town	2000	2001	2002	2003	2004	2005
Colton	2	11	10	4	16	17
Hopkinton	16	25	10	5	16	11
Parishville	14	21	31	30	51	11
Piercefield	14	1	10	2	7	0

Table 10: Coyote Harvest 2000-2005

Town	2000	2001	2002	2003	2004*	2005*
Colton	9	0	0	2	0	0
Hopkinton	1	3	3	4	0	0
Parishville	1	1	11	0	0	0
Piercefield	0	2	3	3	0	0

* the pelt sealing requirement for coyote was dropped starting with the 2004 season

b. Wildlife Observation

There is currently no assessment of non-consumptive wildlife use available for the unit, although the public access provisions now in effect undoubtedly provide some direct or incidental wildlife viewing opportunities to users.

3. Fisheries

Specific quantitative information about angler use of Raquette-Boreal Unit Planning Area waters is unavailable. The major trout fishery in the area is the Jordan River. Fishing pressure on this type of water is probably in the range of 100-150 angler-hours/acre/year based on data from other areas (NYSDEC Catch Rate Oriented Trout Stocking Policy), mostly in the spring. Fishing on the area's trout ponds can be expected to peak in April, May and June. Buck Pond and Little Jordan Lake are the only ponds in the area with known brook trout populations and no data exists as to how much fishing pressure they receive. Studies on other Adirondack waters indicate use rates in the range of 6-10 angler-trips/acre/ year could be expected (Gordon 1992, Pfeiffer 1979) on a pond like Buck Pond. Fishing on warmwater ponds likely peaks in July and August. The warmwater ponds in this UMP likely receive little if any fishing pressure due to the poor quality of fishing they provide. Carry Falls Reservoir is the most used water of this type on or adjoining state or easement land. It probably provides on the order of 100 angler trips annually.

The Department of Health monitors mercury levels in the Carry Falls Reservoir as part of a statewide program. As is the case in much of the Adirondacks, the waters have a limited ability to buffer the effects of acid rain. The resultant lower pH water provides chemistry that accepts more mercury in the form that contaminates fish. Fish that live longer and eat other fish tend to have more mercury than do smaller fish. The mercury can occur naturally or can come from non-point sources (air pollution). There is a large effort by the State and other organizations to reduce the pollution that leads to mercury contamination.

4. Water Resources

Water resources are an important component of the Raquette Boreal ecosystem, providing a wide range of aquatic environments along with opportunities for public recreation. The unit contains at least 30 lakes and ponds. Of these, 14 are named; combined they comprise an area of more than 4700 acres. The Raquette Boreal Unit also contains a large complex of lotic habitats, including 14 named rivers and streams.

The vast majority of the waters in the Raquette Boreal Unit occur in the Raquette River watershed, while only one pond (Jocks) located on the area's southwest corner drains into the Grasse River. The Raquette River itself, flowing from its source in the central Adirondacks, provides drainage for approximately 900 square miles of the park. At approximately 170 miles in length, it is the longest river in the northwest Adirondacks and

the second longest in the state. Both the Raquette and the Grasse Rivers flow north and eventually join with the St. Lawrence River in the vicinity of Massena.

Unique to this unit is the presence of two hydro power facilities which have been operating since the early 1950's: Carry Falls and Stark Reservoirs. Both are impoundments of the Raquette River. Carry Falls Reservoir is used to store water and regulate flow to downstream hydro power generating facilities such as Stark. The Federal Energy Regulatory Commission (FERC) license to operate these facilities has recently been renewed, and the new license, along with its specific implementation dates, was issued in February 2002. New operation standards, designed to maintain power production while offering improved environmental protection, were on line during 2002. Specific to Carry Falls, the revised drawdown standards are expected to result in an increase of permanently wetted reservoir substrate from approximately 700 acres to over 2500 acres. Reducing drawdown will improve wetland and aquatic habitat values and should result in better benthic production, fish spawning, reptile and amphibian habitat in the reservoir.

E. Recreational Opportunities for Persons with Disabilities

The Federal Americans with Disabilities Act of 1990 (ADA) along with the Architectural Barriers Act of 1968 (ABA) and the Rehabilitation Act of 1973, have important implications for the management of all public lands, including the Raquette Boreal Unit. A detailed explanation of the ADA and its influence on management actions is provided under Section III, B. Management Guidelines.

In 1997, DEC adopted policy CP-3, Motor Vehicle Access to State Lands under Jurisdiction of the Department of Environmental Conservation for People with Disabilities, which establishes guidelines for issuing Temporary Revocable Permits allowing qualified people with disabilities to use motor vehicles to gain access to designated routes on certain state lands.

F. Relationship Between Public and Private Land

Much of the Forest Preserve lands in the Raquette Boreal Unit are bordered by private lands subject to conservation easements. These include the Lassiter easement, Conservation Fund Easement, International Paper Easement and Hollywood Mountain Tract Easement, all of which are included in this UMP. Additionally the unit also borders private parcels unencumbered by easements, including Kildare Club, Little Kildare Club, Jordan Club, Lassiter lands, Joe Indian Association, Brookfield Power and International Paper, the latter on which an easement agreement is under negotiation, but is not yet finalized. The Catamount Lodge and Forest, located on Route 56, maintains a trail system which is open for public use and provides access to the Catamount Forest Preserve parcel.

Much of the existing use of the Raquette Boreal lands east of Carry Falls Reservoir is by private adjoiners or lessees of the adjoining easement lands since the public currently only has access to these lands by boat via Carry Falls Reservoir or the Raquette River. When public access to the Easement and Forest Preserve lands is acquired, future management proposals will need to consider impacts on adjoining private lands as well as the impact of new public access opportunities on the capacity of Forest Preserve lands to withstand the new level of projected use.

G. Relationship Between Raquette Boreal Unit and Adjacent State and Municipal Lands

1. State Lands Under the Jurisdiction of DEC

Grasse River Wild Forest (approximately 9,000 acres)
This unit is separated from the Raquette Boreal Unit by State Route 56. There are no interconnecting trails between the two units. The APSLMP describes the unit as follows:

> *This 1,274 acre unit is located in St. Lawrence County, Town of Clare and borders both the Main (a designated Study River) and North (a scenic river) Branches of the Grasse River. The Adirondack Park Blue Line forms the western boundary of the unit. Access to the unit is by means of the Downerville Road from the north and the gated Lampson's Mill Road from the south. The primary points of interest are Lampson's Falls and canoeing the Main Branch of the Grasse River.*

2. State Lands Under the Jurisdiction of DEC and DOT

NYS DOT Travel Corridor - This land category is unique in that several State agencies are involved in its administration. A travel corridor is defined as: *"...that strip of land constituting the roadbed and right-of-way for state and interstate highways in the Adirondack Park, and those NYS lands immediately adjacent to and visible from these facilities."* (APSLMP, 2001, page 46)

> NYS Route 56- The 12.1 miles from the intersection of State Routes 3 and 56 forms the western border of this unit.
>
> NYS Route 3- The 9.8 mile section from the intersection of State Route 56 to Dead Creek form the southern boundary of the unit.

3. Town Lands - When NYS acquired the NIMO lands west of Carry Falls Reservoir, NIMO reserved a right on approximately 8.5 acres adjacent to Route 56 to construct a parking area. Additionally they reserved a 66' wide reservation across their lands for a recreational trail. These rights either have been or may be transferred to the Town of Colton.

H. Capacity to Withstand Use

Carrying Capacity Concepts

The Raquette Boreal Unit, like any other natural area in the 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, therefore, to work to ensure a natural area's carrying capacity is not exceeded while concurrently providing for visitor use and benefit. The areas of resource assessment, according to the SLMP, which require management attention include physical and biological resources as well as their social and psychological aspects.

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, however 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 Raquette Boreal Unit. Much research has 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 does not mean however that limitation of use levels is not an important management tool if the level of impact warrants such a decision.

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 for 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 of, "How many is too many?" to the new, more realistic one of: "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 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 lands."* 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 *"[m]any 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 Department's management focus must remain on protecting the resource. *"[F]uture 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 *"[w]ithin constitutional constraints... without destroying the wild forest character or natural resource quality"* of the area. The APSLMP wilderness management guidelines, which also apply to wild forest, further state "*Where the degree and intensity of permitted recreational uses threaten the wilderness resource, appropriate administrative and regulatory measures will be taken to limit such use to the capability of the resource"*.

A central objective of this plan is to lay out a strategy for achieving such a balance in the Raquette Boreal Unit. This strategy reflects important guidelines and principles, and has directed the development of the management proposals which are detailed in Section IV.

Strategy

The long-term strategy for managing the Raquette Boreal Unit 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 IV of this plan, there has been developed 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) Process

The Limits of Acceptable Change (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. When devised in this manner, objectives founded in the LAC process dictate how much change will be allowed, 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, so management efforts can address unacceptable changes. A particular standard may be chosen to act as a boundary which allows for management action before conditions deteriorate to the point of unacceptability. The monitoring of resource and social conditions is critical. The LAC process relies on monitoring to provide systematic and periodic feedback to managers concerning specific conditions related to a range of impact sources, from visitor use to the atmospheric deposition of pollutants.

Though generally the levels of human impact within the Raquette Boreal Unit 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 Raquette Boreal Unit. From the list in Section III-D, 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.

Impacts of Public Use

A systematic assessment of the impacts of public use within the Raquette Boreal Unit has not been conducted. While additional information is needed about overall public use of the Raquette Boreal Unit and the impacts of use on the area's physical and biological resources, as well as their social and psychological aspects, the planning team considered the best available information. For ease of organization, the capacity of the Raquette Boreal Unit to withstand use is divided into three broad categories: physical, biological, and social. For each category, the definition of capacity will be followed by the known current situation within the Raquette Boreal Unit. The management objectives and proposed management actions to deal with existing or potential future problems are presented in Section IV of this plan.

Physical capacity - May include indicators that measure visitor impacts to physical resources (e.g. soil erosion on trails, campsites and access sites) and changes to environmental conditions (e.g. air and water quality).

Biological capacity - May include indicators that measure visitor impacts to biological resources (e.g. vegetation loss at campsites or waterfront access sites) and changes in the ecosystem (e.g. diversity and distribution of plant and animal species).

Social capacity - May include indicators that measure visitor impacts on other visitors (e.g. conflicts between user groups), the effectiveness of managerial conditions (e.g. noncompliant visitor behavior), and interactions with the area's physical or biological capacity (e.g. noise on trails, campsites and access sites).

1. Physical

The physical capacity of a land area to withstand recreational use is the level of use beyond which the characteristics of the area's soils, water and wetland resources, and topography undergo substantial unnatural changes. The capacity of a particular site is related to slope, soil type, ground and surface water characteristics, the type of vegetation that occupies the site, and the types or amount of recreational activity to which the site is subjected. In some cases physical impacts observed within the area are due to erosion brought on by inadequate or infrequent maintenance or poor layout and design, rather than actual use. In other instances impacts may be caused by illegal uses of the area. Physical impacts from illegal motor vehicle use are evident on most trails throughout the unit. The illegal use of motor vehicles is the greatest threat to the resources of this unit.

Air quality in the region including the Raquette Boreal Unit is largely a product of forces and activities originating outside the unit. The air quality impacts resulting from the building of campfires by visitors are limited and localized. Smoke from campfires is not known to have significant ecological effects. The effects of exhaust emissions from snowmobile use within this unit have not been comprehensively studied or documented, though public use of snowmobiles is, of course, very low due to the lack of public motor vehicle access to most of the unit.

2. Biological

The biological capacity of a land area to withstand recreational use is the level of use beyond which the characteristics of the area's plant and animal communities and ecological processes sustain substantial unnatural change. A review of available information indicates that the level of use within the unit does not appear to be exceeding the capacity of the biological resources to withstand use. Any future increase in use levels will require monitoring to insure this capacity is not exceeded.

Plant life
Impacts from public use to area vegetation include illegal tree cutting, removal of brush, and loss of vegetation due to expansion of campsites. Additional impacts to this resource involve tree cutting allowed by easement or road and utility line maintenance (under TRP) or tree removal associated with trail maintenance, rehabilitation, and development. Another potential impact is the introduction of invasive species into the unit.

Wildlife
The impact of public use on most wildlife species within the Raquette Boreal Unit is unknown, but it is probably minimal. Impacts on wildlife and habitat within the unit will require future monitoring, especially as use levels on the unit increase.

Non-Game Species
Little is known on the potential impact of recreational activities within the Raquette Boreal Unit on non-game species. More research is necessary. Some species, like red-shouldered hawk, nest in areas near large coniferous and mixed forest wetlands. Osprey nest in the tops of dead tress and snags close to shallow water in which the bird forages. Spruce grouse prefer dense boreal type settings. These sites are not very desirable for camping resulting in less chance of conflicts. However, at least one species may be affected due to human interaction:

Common loon- Common loons nest along shorelines of lakes and ponds. Their nests are often very near the water line, and are susceptible to human disturbance from the land or from the water. Nests along shorelines are more susceptible to human disturbance where trails follow the shore of a lake (Titus, 1978). Shoreline use by campers, particularly on islands, has the potential to lead to the loss of nest site availability. Human disturbance (

including paddling activity) can result in nest abandonment or direct injury to adult or juvenile birds. Additionally, fledgling mortality can occur if chicks are chased by boats. Water bodies with greater boating access will have higher levels of disturbance.

Loons are a long-lived species and a predator near the top of the food chain. They have great public appeal, signifying remote, wild areas to many people. Numerous natural anthropogenic (human) factors can impact the breeding population of loons. Natural predation of eggs and chicks is common and has been observed and documented on several occasions within the Park. 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 been recently documented in New York State. A new law, passed in 2002, bans retail sales of lead fishing sinkers weighing one-half ounce or less. This action is expected to limit the availability of lead sinkers and promote production and sale of non-lead alternatives.

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 on most interior lakes and ponds where the use of motor boats is limited by access. Management efforts will concentrate on protecting loon nesting areas and habitat.

Game Species

Impacts appear to be minimal for the handful of game species monitored. The Bureau of Wildlife monitors populations of game species partly by compiling and analyzing harvest statistics, thereby quantifying the effects of consumptive wildlife use. Harvest statistics are compiled by town, county and wildlife management unit. It can be assumed that, because of the heavily forested condition (which is not prime deer habitat) of the State lands and difficulty in accessing some areas, fewer deer per square mile are harvested on the Forest Preserve portions of the Raquette Boreal Unit than on the surrounding private lands. The narrow range of variation in annual harvest numbers, along with regular season regulations (bucks only), demonstrate little impact on the reproductive capacity of a deer population. Overall, deer populations within the unit are capable of withstanding current 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.

While detrimental impacts to game populations over a large area are unlikely, wildlife Biologists continually monitor harvests, with special attention to otter, bobcat, fisher, and marten. These species can be susceptible to over-harvest to a degree directly related to increases in market demand for their pelts and ease of access to habitat. The Bureau of

Wildlife monitors furbearer harvest by requiring trappers to tag the pelts of beaver, bobcat, fisher, marten, and otter. Specific regulations are changed when necessary to protect furbearer populations.

Other Impacts

Water fluctuations can have a significant impact on nesting loons, marshbirds and waterfowl in general with furbearers such as muskrats and beaver also affected. Numerous studies have been conducted to assess the effects of marine engine pollution on the aquatic environment. The basic conclusion from this research indicates that outboard and inboard motors are not polluters of any major significance in larger waterbodies. Outboard motor manufacturers are required to decrease overall emissions by 2006. New four-stroke motors meet these EPA requirements and emit significantly less pollution than conventional two-stroke motors.

The effect of snowmobiles on deer wintering areas or other area wildlife has been researched in the past and is still under investigation. In the Adirondacks, deer use the same yarding areas annually, although the precise boundaries change over time with succession. Deer use within yarding areas will also change annually in response to winter severity. The maintenance and protection of winter deer yards remains a mandate of the APSLMP and is of concern of wildlife managers, particularly in the Adirondacks, as they fulfill a critical component of the seasonal habitat requirements of white-tailed deer.

Fisheries

Public use of fishery resources is described under section II.E.3. If public access to interior portions of the unit is improved, future use levels as well as their impacts to the fishery resource will need to be monitored. Current stocking policies and fishing regulations apparently provide adequate protection to area fishery resources. The effect of catch and release regulations on the fisheries of the Jordan River are of concern, however. Additionally, future surveys of Buck Pond and Little Jordan Lake may reveal brook trout waters that should be protected through the addition of a bait fish restriction regulation. Evaluation of these regulations is planned.

DEC angling regulations are designed to conserve fish populations in individual waters by preventing over-exploitation. Angling regulations effectively control impacts 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 Raquette Boreal Unit. Statewide angling and special angling regulations provide the protection necessary to sustain or enhance natural reproduction where it occurs.

In addition to angling regulations, factors at work in the unit which serve to limit use, include the relative remoteness of some ponds and streams from roads, the seasonal nature of angling in coldwater ponds and seasonal road closures. Because angler use of back

country streams in the unit is undetermined, the brook trout populations which they support can sustain anticipated harvest levels without damaging their capacity to maintain themselves naturally. The few warmwater game fish species found in the unit also have proven their ability to maintain themselves under existing regulations without the need for stocking.

When necessary, populations of coldwater gamefishes are maintained or augmented by DEC's annual stocking program. Most warmwater species (smallmouth bass, largemouth bass, and panfishes) are maintained by natural reproduction; however, stocking is sometimes used to introduce those fishes to waters where they do not exist. (see pond narratives in Appendix 4).

3. Social

The social capacity of a land area to withstand recreational use is the level of use beyond which the likelihood that a visitor will achieve his or her expectations for a recreational experience is significantly hampered. Social capacity is strongly influenced by an area's land classification, which in turn determines the management objectives for the area and the degree of recreational development possible. While solitude may be managed for in some locations, it is not as important a component of the recreational experience in Wild Forest Areas as it is in Primitive Areas, which are essentially to be managed as Wilderness. Social conflicts mainly occur due to recreationists seeking different experiences. A source of tension can derive from different ideas of what constitutes a camping experience; some visitors anticipate spending a quiet evening observing their natural surroundings, while others look forward to a party atmosphere.

User satisfaction from recreating is a function of both perception and expectation with the presence, number and behavior of others encountered having a direct influence on the quality of the experience. Compatibility between uses usually involves how quiet or noisy an activity is, whether it is consumptive or non-consumptive, whether it involves individuals or groups, and whether it is a traditional or newly introduced activity. A few recreationists feel that other users degrade the quality of their own experiences. Particularly controversial in this respect are motorized recreational activities to which people involved in non-motorized activities often object.

Sound related impacts can cover a large area but are generally temporary in nature with little or no physical effect on the environment. Loud noise could impact area wildlife or alter the experience of a person seeking to escape the sounds of civilization. For other users, particularly those using motor vehicles such as snowmobiles, the sound is an expected normal part of the overall recreational experience.

According to available information and the lack of reports of user conflict, the current level of public use within the Raquette Boreal Unit is not believed to be exceeding the social capacity of the area to withstand use. The unit managers role is to manage

according to the expectations or objectives for an area based on its classification. An area classified as Primitive should be managed essentially as Wilderness where a primary objective is to provide outstanding opportunities for solitude. Where areas classified as Wild Forest may provide for a higher level of recreational use, so long as that use does not adversely impact the Wild Forest character or the areas natural resources.

I. Education, Interpretation and Research

Research activities on the Raquette Boreal Unit are conducted under Temporary Revocable Permits from the Department. Research projects may include TRP's for: geological research, collection of plant specimens, effects of acidic deposition on fish and water quality, water chemistry, nitrogen cycling, sphagnum moss studies and stream monitoring.

III. MANAGEMENT AND POLICY

A. Past Management

The administration of Forest Preserve land is the responsibility of the Division of Lands and Forests. The Division has historically been responsible for the coordination of all activities on Forest Preserve lands. The responsibility for the enforcement of DEC rules and regulations lies with the Office of Public Protection. The Division of Operations conducts construction, maintenance and rehabilitation projects. The Bureau of Recreation within the Division of Operations operates and manages the public campgrounds adjacent to the unit. The Division of Fish, Wildlife and Marine Resources manages the State's fish and wildlife resources.

1. Land Management

No UMP has previously been developed for the lands encompassed by this UMP. Public use management of the original tracts acquired in 1882, to the present, has primarily consisted of establishment and maintenance of boundary lines. Public recreational use of Wild Forest lands is thought to have been minimal since acquisition. Individuals belonging to leased clubs on the Lassiter Easement Lands have had better access to Wild Forest lands in the unit due to available access roads. Some access to the area did occur by the use of dootle bugs and old trucks. These vehicles were stored on the eastern shore of Carry Falls Reservoir and accessed by boat. The Bear Brook Road was the main route used to access the interior.

2. Wildlife Management

Hunting and Trapping Regulations
Regulations controlling season dates, method of taking, and bag limits for wildlife have been the principal wildlife management techniques applied to unit lands. Early regulations were written consistent for all of northern New York (equivalent to the Northern Zone). In the past, DEC subdivided the State into numerous Deer Management Units (DMU) for big game and Wildlife Management Units (WMU) for small game and furbearers. Each unit was defined according to its distinctive ecological and social characteristics. In an effort to make hunting and trapping regulations more user friendly and easier to understand a single set of management units is now used for all species. Boundaries were adjusted when necessary and a new alpha-numeric identification system was created. Decisions concerning wildlife management are ordinarily based upon these management units which are typically larger than individual forest preserve units. The Raquette Boreal Unit occupies a portion of the larger forest stands and landforms within WMU 6F, the number indicating the wildlife region generally responsible for that unit.

Waterfowl season parameters are largely established by Federal authority, but states have some flexibility for season modifications within the Federal framework.

Nuisance Wildlife Policy

The Bureau of Wildlife investigates nuisance wildlife complaints on a case-by-case basis. The DEC does not actively control nuisance wildlife except when the behavior of wildlife is deemed to threaten the lives of visitors. No major conflicts between visitors to the unit and resident wildlife have been reported. Beaver activity occasionally floods trails or roads in the unit.

Surveys and Inventories

Over the years, both game and non-game species of wildlife and significant wildlife habitats have been the subjects of various surveys and inventories.[1] Maps showing the locations of significant wildlife habitats have been created and are continually updated by DEC's Wildlife Resources Unit. Significant habitats within the unit are described in the Section II-A-4-Critical Habitat.

Annual flights through the Adirondacks to inventory active osprey nests and to determine nesting success are conducted by the Bureau of Wildlife. Eagle and peregrine falcon nests, and deer wintering areas are monitored annually. Periodically, DEC and private agencies have surveyed common loon populations in the State. DEC's last loon survey was completed in 1985. The Breeding Bird Atlas Project was conducted from 1980 to 1985 and conducted a census of breeding birds statewide. The Atlas 2000 project is currently repeating the survey to learn how breeding bird distribution has changed. As mentioned elsewhere, harvest figures are collected annually for a variety of game species.

Species Restoration

A number of wildlife species once native to the Adirondacks were extirpated either directly or indirectly as a result of human activities. In recent years, recognizing the desirability of at least partially restoring the composition of wildlife species originally present in the Adirondacks, DEC and others have launched projects to reintroduce the peregrine falcon, bald eagle, and Canada lynx.

DEC began an effort to reintroduce the peregrine falcon to the Adirondacks in 1981 by implementing a method of artificially rearing and releasing young birds to the wild called "hacking." Between 1983 and 1985, 55 bald eagles were also hacked within the Adirondack region. The peregrine and bald eagle restorations have been very successful statewide, but no nesting activity by peregrines has been discovered within the unit since the end of the hacking program.

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[1] *The New York Natural Heritage Program is a cooperative effort between the Nature Conservancy and DEC to inventory and manage the occurrence of rare plants, animals, and exemplary natural communities in New York State. It is closely related in scope and purpose to DEC's Significant Habitat Program. Natural Heritage and Significant Habitats jointly issue reports and maps assessing resource conditions.*

The State University of New York College of Environmental Science and Forestry, through the Adirondack Wildlife program, conducted an experimental project to reintroduce the Canada lynx to the Adirondack High Peaks region. Lynx were first released in 1989; a total of 83 animals were released by the spring of 1991. The restoration is considered to be a failure, as a lynx population has not been re-established in the Adirondacks.

Invasive/Exotic Wildlife

A Non-indigenous Aquatic Species Comprehensive Management Plan prepared by the Department in 1993 identifies strategies to eliminate or reduce environmental, public health, and safety risks associated with nonindigenous aquatic species, particularly zebra mussels.

Other Fauna/Public Health Concerns

Wildlife occasionally can impact the health or enjoyment of outdoor recreationists. In some cases, area waters are treated with Bti to help reduce the numbers of black flies. This activity falls within the scope of Article 15 of the Environmental Conservation Law and an aquatic pesticide application permit and TRP are required under NYCRR Part 329. The more common potential health concerns include:

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 New York State Department of Environmental Conservation (NYSDEC) received confirmation of CWD from two captive white-tailed deer herds in Oneida County and subsequently detected the disease in 2 wild deer from Oneida County. 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 a wild deer in West Virginia.

The NYSDEC 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 NYSDEC website: *http://www.dec.ny.gov/animals/8325.html*

Giardiasis - This intestinal illness sometimes called "beaver fever" is caused by a microscopic parasite called *Giardia lamblia*. Even though many animals other than man can act as hosts, including the beaver, improper disposal of human excrement is one of the primary reasons for the increased numbers of this parasite in the interior.

Lyme disease - This infection is caused by the bite of a deer tick carrying a bacterium, that often infects deer, field mice, humans and household pets.

West Nile Virus - Is a relatively new viral disease that is carried by birds and can be transmitted to humans, in particular, through mosquito bites. It is often fatal to some species of birds, such as crows, but in most species it is not fatal. It can be fatal in humans, especially in those with compromised immune systems. The use of insect repellant will help reduce exposure.

Rabies - Rabies is a viral infection that affects the nervous system of all mammals, including humans. It is usually transmitted by the bite of an infected animal to another. Like other viral infections, it does not respond to antibiotics and is almost always fatal once the symptoms appear. Major carriers of rabies include raccoons, skunks, bats and fox species but all mammals can be potential carriers.

3. Fisheries Management

Besides the stocking of tiger musky in Carry Falls Reservoir up until 2003, no other waters in this UMP have received any stockings in recent history. The lack of stocking was the reason for applying a catch and release regulation on the Jordan River as the possibility exists that the brook trout in the river may be "heritage" (without any stocking influence to genetics). No survey work has been completed on any of the waters besides Carry Falls Reservoir and thus little management has occurred. Species composition data for the ponded waters comes from survey work completed by the Adirondack Lake Survey Corporation in the late 1980s.

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 New York 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 Department policy.

Article XIV, Section 1 of the New York 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" or " Primitive"* by establishing basic guidelines. Appendix 1 outlines the APSLMP guidelines for the management of wild forests and primitive areas.

It is important to understand that the 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 Department of Environmental Conservation 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.

Scenic and Recreational Rivers - Appropriate sections of designated rivers within the unit and river corridors will be managed in accordance with APSLMP guidelines and 6NYCRR Part 666. The use of motorboats on recreational rivers may be permitted as determined by DEC.
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;

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

7. The Administration of Conservation Easements (NR-90-1).
8. Acquisition of Conservation Easements (NR-86-3).
9. Division Regulatory Policy (LF-90-2).
10. Adopt-A-Natural Resource (ONR-1).
11. Policies and Procedures Manual Title 8400 - Public Land Management.
12. Adirondack Subalpine Forest Bird Conservation Area- Management Guidance.
13. Forest Preserve Roads (CP-38)
14. Fishery Management in Wilderness, Primitive and Canoe Areas, as amended-November 2, 1993 (O&D #93-95)

The Department 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, Department policy memos, and Regional operating procedures.

DEC is currently developing policies for ATV Access on Public Lands and Forest Preserve roads.

Guidance and Clarification Documents:

- Interim Guidelines for Snowmobile Trail Construction and Maintenance - 11/1/2000
- Clarification of Practice Regarding Motor Vehicle Use for Snowmobile Trail Grooming, Maintenance and Construction - 11/1/2000
- Guidelines for Motor Vehicle Use Proposals in Wild Forest UMPs Memorandum - 7/25/2001

SEQR - The recommendations presented in this unit management plan 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.

State of New York Snowmobile Trail Plan - The Statewide Snowmobile Plan was completed by OPRHP in October, 1989. The overall goals of the plan are to provide a statewide snowmobile trail system while protecting the environment and properly addressing the concerns of the non-snowmobiling public. The Statewide Snowmobile Plan provided a trail classification system and conceptual corridor trail system. While the Adirondacks were included within the Statewide Snowmobile Plan, the classification and standards for snowmobile trails within the Forest Preserve are being refined in the Snowmobile Plan for the Adirondack Park/Draft GEIS. The Plan/GEIS includes the identification of a conceptual system of community connections, balanced with interior trail re-designations for non-motorized use only, and other possible mitigative actions. New and reconfigured trails contemplated for State lands pursuant to this Plan/GEIS will require specific authorization in an approved UMP for each individual location. Full implementation of the Final Plan/Final GEIS may require amendments to the APSLMP

and DEC regulation before certain recommendations may be reflected in UMPs. The DEC policy revision process will commence upon adoption of the Final Plan/Final GEIS. Until such time as policy revisions are adopted by the DEC, UMPs will be written to reflect current policy, and will be amended when policy revisions take effect.

The Biodiversity Act

The Biodiversity Act of 1993 mandates that DEC identify, manage and conserve plants, animals and ecological communities that are rare in New York State, and that are located on State-owned lands under the jurisdiction of the Department. The Act also establishes the New York Natural Heritage Program to identify, locate, rank and maintain records on the status of rare plants, animals and ecological communities, for the purpose of conserving and managing the State's biological diversity.

Historic Preservation

The New York State Historic Preservation Act of 1980 (SHPA, Article 14 of Parks, Recreation and Historic Preservation Law) and its implementing regulations (9 NYCRR 426, 427 and 428) created the State Register of Historic Places and recognizes the National Register of Historic Places. The statute further obligates State agencies to act as stewards of historic properties (buildings, structures, objects and archaeological sites) they own and requires that agencies identify, evaluate and mitigate impacts to historic properties that might be affected by actions they undertake, fund or permit. The Department is also specifically charged with providing historic sites and services within the Adirondack Park in ECL Articles 9 and 41.

Even though no known historic and archaeological sites are located within the Raquette Boreal Unit, any additional unrecorded sites that may exist on the property, are protected by the provisions of the New York State Historic Preservation Act, Article 9 of Environmental Conservation Law, 6 NYCRR Section 190.8 (g) and Section 233 of Education Law. Unauthorized excavation and removal of materials from any of these sites is prohibited by Article 9 of Environmental Conservation Law and Section 233 of Education Law. In some cases additional protection may be afforded these resources by the federal Archaeological Resources Protection Act (ARPA).

2. Application of Guidelines and Standards

All projects will be developed in accordance with the above mentioned laws, rules, regulations and policies and will incorporate the use of Best Management Practices, including but not limited to such considerations as:

a. Construction Projects:

- 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;

- Using stream crossings 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.

Lean-tos:

- Locating lean-tos to minimize necessary cut and fill;
- Locating lean-tos to minimize tree cutting;
- Locating lean-tos away from streams, wetlands, and unstable slopes;
- Use of drainage structures on trails leading to lean-to sites, to prevent water flowing into site;
- Locating lean-tos on flat, stable, well-drained sites;
- Limiting construction to periods of low or normal rainfall.
- Lean-tos will be constructed of natural materials.

Parking Lots:

- 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;
- Locating parking lots in areas that require a minimum amount of tree cutting;
- Limiting construction to periods of low or normal rainfall;
- Limiting the size of the parking lot to the minimum necessary to address the intended use.

Trails:

- 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 crossings 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.

Bridges:

- Minimizing channel changes and the amount of cut or fill needed;
- Limiting construction activities in the water to periods of low or normal flow;
- Minimizing the use of equipment in the stream;
- Installing bridges at right angles to the stream channel;
- Constructing bridges to blend into the natural surroundings;
- Using stream bank stabilizing structures made of natural materials such as rock or wooden timbers;
- Stabilizing bridge approaches with aggregate or other suitable material;
- Using soil stabilization practices on exposed soil around bridges immediately after construction;
- Designing, constructing and maintaining bridges to avoid disrupting the migration or movement of fish and other aquatic life;
- In primitive areas bridges will be constructed of natural materials.

Mountain Bike Trails:

- Look for and identify control points (e.g. wetlands, rocks, outcrops, scenic vistas);
- Avoid sensitive areas; wetlands and wherever water collects. Keep trails below 2,500 feet;
- Use existing roadways where possible that do not exceed grades of 10%;
- Clear new trails to a maximum width of 4 feet to establish a single track route;
- Keep tread width less than 18" along a rolling grade;
- 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;
- Minimize cuts and fills as much as possible on side slopes, following the contour, cut full benches to construct the tread. Out sloping in this manner helps to remove water from the trail. Vegetate back slopes;
- Build flow into the trail with open and flowing designs with broad sweeping turns;
- Streams should be crossed at 90 degree angles preferably across rock or gravel;
- Bridges may be used where steep banks prevent normal stream crossings;
- Do not construct skid berms or extensive banked turns that may accelerate erosion;
- Avoid acute, sharp angle turns;
- 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 annually. Address water problems immediately.

b. Pond Reclamation

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.

c. Liming

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 Division of Fish, Wildlife and Marine Resources liming policy.

d. Fish Stocking

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

e. Protection of Deer-Wintering Areas

The maintenance and protection of deer wintering areas are important in maintaining deer in the northern portions of their range. Activities which substantially diminish the quality or characteristics of the site should be avoided, but this does not mean human use is always detrimental. Forest stewardship activities (including softwood harvest), pass through trails, and other uses can be compatible with deer yards if they are carefully considered. 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 in severe conditions. Travel corridors can be stretches of conifer cover along river drainages and are dense but narrow components which allow access to food resources in milder conditions. Forest management conditions which afford protection of core sections and avoid fragmenting travel corridors are acceptable in many situations. Certain types of recreation trails such as ski trails or snowmobile trails, particularly if the traffic is not prone to stopping or off trail excursions, are not presently considered to significantly impact deer yards in an overall negative way. 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 snowmobile or cross-country ski use can disturb deer and may cause them to run,

placing higher energy demands on deer already stressed in winter. The APSLMP wild forest guidelines for snowmobile trails state "*deer wintering yards and other important wildlife and resource areas should be avoided by such trails.*" The following are some general guidelines to follow for protecting deer wintering areas.

Deer Yard Protection in the Adirondacks

- Maintain a minimum 100 foot forested buffer on either side of streams to protect winter habitat and travel corridors between core yard components.
- Avoid placement of heavily used ski trails through core segments of deer yards to reduce disturbance associated with skiers stopping to observe deer.
- Trails should not traverse core segments of deer yards in densely populated areas such as hamlets, villages, or along roadsides developed with human habitation because they provide access for free roaming dogs.

f. 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 Department 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 Department. Since recreation is an acknowledged public accommodation program of the Department, and there are services and activities associated with that program, the Department 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 Land Master Plan. The Department 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 the ADAAG to cover outdoor developed facilities: trails, campgrounds, picnic areas and beaches. The proposed ADAAG are contained in the September, 1999 Final Report of the Regulatory Negotiation Committee for Outdoor Developed Areas.

The 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 Department is planning the construction of new recreational facilities or 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 the 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. The ADAAG are not intended or designed for this purpose, but using them to establish accessibility levels lends credibility to the assessment result. Management recommendations in each 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 become an adopted rule of the Department of Justice, the Department is required to use the best information available to comply with the ADA. This information includes, among other things, the proposed guidelines.

3. Deed Restrictions or Reservations

Niagara Mohawk- Reserved a right for a power line within the Raquette River Corridor.

Niagara Mohawk- Reserved a 200' right-of-way on the Stark parcel for transmission line and road purposes.

Niagara Mohawk- Reserves a right in T8 Lots 44 and 45 for a parking area and recreational trail. These rights will be or have been transferred to the Town of Colton.

Niagara Mohawk- Reserves a right in T8 Lots 44 and 45 for transmission lines.

Lassiter- Reserved rights for ingress and egress to Lot 48(Town of Hopkinton), Lots 41 and 44(Town of Colton).

Lassiter- Reserved rights to access their ownerships, current and future, across lands they previously owned.

Jamestown Falls Camp- reserved access on Jamestown Falls Road.

Smiths Island Camp- reserved right on existing access road.

Forest Preserve Lots 55 and 56 in Township 8 - These are forest preserve lands acquired from Lassiter, Inc. TNC acquired these lands for transfer to the State (as part of the larger Lassiter acquisition), and reserved the right to manage for spruce grouse. The reservation includes the right to manage, selectively cut, remove and/or prune trees or other vegetation necessary to insure the preservation and propagation of spruce growth populations. Any timber cut as part of the management done may not be sold commercially. TNC must consult with DEC to develop a management plan before any actions can take place.

C. Administration and Management Principles

1. Administration

Administration of the Raquette Boreal Unit is shared by several programs in the Department. The Division of Lands and Forests has the responsibility for coordination of all management activities on the unit.
Within the context of the Raquette Boreal Unit, Department programs fill the following functions:

- The Division of Lands and Forests acquires and maintains land for public use, manages the Forest Preserve lands, promotes responsible use of public lands and provides educational information regarding the use of the Forest Preserve.

- The Division of Fish, Wildlife and Marine Resources protects and manages fish and wildlife species, provides for public use and enjoyment of natural resources, stocks freshwater fish, licences fishing, hunting and trapping, protects and restores habitat, and provides public fishing, hunting and trapping access.
- The Natural Heritage Program enables and enhances conservation of New York's Threatened and Endangered plants, animals and significant ecosystems. Field inventories, scientific analyses and expert interpretation result in the most comprehensive database on New York's distinctive biodiversity which provides quality information for natural resources planning, protection, and management.
- The Division of Water protects water quality in lakes and rivers by monitoring water bodies and controlling surface runoff.
- The Division of Air Resources regulates, permits and monitors sources of air pollution, forecasts ozone and stagnation events, educates the public about reducing air pollution and researches atmospheric dynamics, pollution and emission sources.
- The Division of Operations designs, builds and maintains Department facilities and infrastructure, operates Department Campgrounds and day-use facilities.
- The Division of Public Affairs and Education is the public communication wing of the Department. The Division communicates with the public, promotes citizen participation in the UMP process, produces, edits and designs Department publications.
- The Division of Law Enforcement is responsible for enforcing all of New York's Environmental Conservation Laws relating to hunting, fishing, trapping, license requirements, Endangered species, possession, transportation and sale of fish and wildlife, trespass, and damage to property by hunters and fishermen.
- 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 and well-being of the public using those resources. Forest Rangers are the stewards of the Forest Preserve, are the primary public contact for the Raquette Boreal Unit, and are responsible for fire control and search and rescue functions. In 1980, state law designated Forest Rangers as Peace Officers with all powers to enforce all State laws and regulations with emphasis on Article 9 of the Environmental Conservation Law and Part 190 of the Department's Regulations.

D. Management Issues, Needs and Desires

Several issues were of concern to the Department and the public in the development of this plan. Information and feedback on issues was obtained from the public by way of an Open House, held on July 20, 2000 at Colton- Pierpont Central School, by mail, and e-mail. Additional public comments were received during the classification hearings in 2006. The following list of issues, needs and desires were received from the public and DEC staff. Some of the issues, needs and desires have not resulted in Proposed Management Actions being developed. In many cases proposals would be in conflict with existing laws, regulations or Department policies. Where this has occurred, a justification for the exclusion is provided. The issues identified by the public for this unit were

expressed in general terms, for the unit as a whole, rather than a specific use at a specific location. Section IV will address specific proposed management actions, some of which are in response to input received through the participation of groups and individuals. Issues raised included the following:

Motor Vehicle Access - The State does not have public motor vehicle access to the lands east of Carry Falls Reservoir. This limits public use to those who access these lands by boat across Carry Falls or the Raquette River. Other comments felt the limited access to the portions of the unit east of Carry Falls should remain as it currently is and not be improved.

Snowmobile Access - Currently there is no public access for snowmobiling east of Carry Falls Reservoir. Access to these lands could help improve the snowmobile trail system for the surrounding area.

Boundary Lines - The lack of surveyed and marked boundary lines on the unit pose numerous problems. The complex ownership patterns of the unit makes the need for accurate marked boundaries even more critical to planning of future facilities. The boundaries between the some of the Forest Preserve Lands and Lassiter fee lands and the FERC line of Brookfield Power follow an elevation line. It is possible that due to the lack of surveyed boundaries there may be buildings occupying Forest Preserve lands.

IP Camp removal - IP reserved a right to maintain seventeen camps within the Raquette River corridor until 2004, and transferred that right to the Conservation Fund. After that time the camps were to be removed or relocated to IP or Conservation Fund land. To date most of the camps still remain on Forest Preserve lands within the river corridor.

Lassiter Timber Rights- Lassiter claims to own timber rights on former NIMO lands below the 1460' contour line on the east side of Carry Falls Reservoir. This claim is disputed by the State and is currently in litigation.

Lassiter Access Rights- Several of the roads currently used by Lassiter to reach their lands cross old Forest Preserve lots. It is unclear whether the use of these roads is a reserved access right, a prescriptive right or some other type of right, if any.

Kildare Club Access Rights-The Kildare Clubs access crosses Lot 40 of Township 9, which is an old Forest Preserve lot. Historical maps and references indicate that this may have been a public highway at one time. It is unclear whether the use of this road is a reserved access right, a prescriptive right, or some other type of right, if any. Also in question is whether the State has the right to use and open to the public the road which crosses private lands and provides access to the road on the Forest Preserve parcel. Currently, use of this access road to the Forest Preserve parcel is closed to the public.

Town of Colton - The Town of Colton has informed the Department that it may proceed with the process to “qualify abandon” an old road that crossed the Raquette River and extended east through what is now the Raquette River WF, Raquette-Jordan Boreal PA. By going thru such abandonment proceeding the town believes it would then retain the

ability to open it for ATV use in the future. As the road is now on Forest Preserve lands and has not been used by the public nor maintained by the town for many years the Department will likely object to this action. This same road extended east thru the Kildare Club and connected to the road on the Forest Preserve parcel east of the Club that is discussed above.

Illegal motor vehicle (ATV) use- Illegal ATV use within the unit was identified as a major issue. This use occurs on the Bear Brook Trail, an unmarked trail leading southeast of the Lassiter Main Haul Road and on the shoreline of Carry Falls Reservoir.

IV. PROPOSED MANAGEMENT ACTIONS

This section of the plan breaks down the various resources of the unit into the following categories; bio-physical resources, land protection, man-made facilities, and public use and access. Each category is further broken down into component units where the present conditions are assessed, management objectives developed and management actions proposed. All recommended actions are consistent with the APSLMP and the management guidelines and principles outlined above, and are based on information gathered during the inventory process, through public input and in consultation with the Planning Team.

A. Bio-Physical Resources

1. Water

Present Situation and Assumptions:

Water quality studies have been conducted throughout the Adirondacks by the ALSC, researching the effects of acid deposition, and the Bureau of Fisheries routinely conducts biological surveys of area waters. No studies have been conducted to determine the effects of recreation use on water quality. As focal points for visitation, streams, springs, lakes, ponds, and wetlands are on the receiving end of more human disturbance than upland forest areas. Visitors must be advised that the water is not considered potable and must be properly treated before consumption.

Objectives:

- Seek to achieve and maintain high water quality within the Raquette Boreal unit.
- Reduce the potential for pathogenic contamination from all water sources.
- Reduce or eliminate aquatic invasive plant species found within the unit.

Management Actions:

- Develop LAC indicators and standards for vegetation in riparian areas near lakes and streams.
- Aquatic and riparian habitats will be maintained and/or improved. Any new use which could prove damaging to the character of riparian vegetation will be monitored.
- Train DEC staff working within the unit to identify and document the location of key invasive plant species.
- Monitor for the location and extent of aquatic invasive plant species found within the unit.
- Management of identified populations of invasive plant species should be undertaken. These actions may be carried out by NYSDEC personnel or by members of APIPP or other volunteers under supervision of NYSDEC through an Adopt a Natural Resource Agreement.

- Biological survey work will be incorporated in all future water related planning activities.
- Advise adjoining landowners on the use of Best Management Practices to protect water quality.
- Advise the public through DEC information and education programs to treat all water prior to consumptive use.

2. Soil

Present Situation and Assumptions:

Broad soil types (accurate to an area about 40 acres in size) were delineated on aerial photographs by the Natural Resource Conservation Service. Little information has been documented on wide-spread soil loss and deposition.

Objective:

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

Management Actions:

- Inventory, map, and monitor soil conditions affected by recreational use.
- Develop LAC indicators and standards for soil erosion.
- Relocate any trail, designated campsite, or lean-to which is causing significant soil erosion.
- Continue to restrict motor vehicle use during the spring breakup and during periods of excessively wet weather.
- Target trail and road maintenance to heavily eroded trails and roads; develop a priority list based on resource need rather than on user convenience.
- Request voluntary compliance with seasonal closures of trails during periods of wet weather; usually from November 1 - December 15 and April 1 - May 15, or at appropriate times set by the area manager.

3. Vegetation

Present Situation and Assumptions:

Much of the Raquette Boreal Unit vegetated landscape has been altered by wind, fire, insects and disease, and pre-Forest Preserve logging. Despite these influences, the unit has several unique ecosystems which are currently stable and intact. These areas include small portions of old growth forest, wetland communities, and potentially some areas not yet identified through the unit management planning process. Plant inventories and ecological mapping are on-going; however, not all areas have been inventoried.
A number of invasive exotic plant species, both terrestrial and aquatic, have become established in the Adirondack Park. Under the supervision of the Adirondack Park Invasive Plant Program, numerous volunteers are involved in a program of monitoring and

removing invasive plants from the Adirondack environment. The extent of exotic, non-native species introductions that compete with indigenous vegetation is not known.

Objectives:

- Allow natural processes to play out their roles to insure that the succession of plant communities is not altered by human impacts.
- Preserve and protect known locations of Threatened, and Endangered species.
- Continue and enhance programs to identify and map Threatened, and Endangered species.
- Assist natural forces in restoring natural plant associations and communities where they have been severely altered by human activity.
- Reduce or eliminate terrestrial invasive plant species found within the unit.
- Support scientific research projects on the Raquette Boreal Unit through the issuance of TRP's.

Management Actions:

- Develop LAC indicators and standards for condition of vegetation in camping areas.
- All vegetation protection and restoration programs will emphasize information and education as the primary means to reduce impacts and slow unnatural change.
- Continue botanical surveys to produce a more complete inventory of Threatened and Endangered species.
- Ecological inventorying and mapping will be correlated with recreation, and fish and wildlife project plans to prevent unintended and undesirable impacts to Threatened and Endangered species.
- Revegetate sites where concentrated use has destroyed natural vegetation. Native seedlings, trees, shrubs, and grasses will be planted to accelerate return to natural conditions when necessary.
- Vegetation at primitive tent sites will be monitored in conjunction with the campsite monitoring program described in the section on campsites.
- Train DEC staff working within the unit to identify and document the location of key invasive plant species.
- Control known infestations of invasive species using BMP's found in Appendix 6.
- A comprehensive inventory of the presence and extent of invasive plants in the unit should be undertaken.
- Management of identified populations of invasive plant species should be undertaken. These actions may be carried out by NYSDEC personnel or by members of APIPP or other volunteers under supervision of NYSDEC through an Adopt a Natural Resource Agreement.

4. Wildlife

Present Situation and Assumptions:

A number of changes have occurred over the past several decades that have impacted a variety of wildlife species within the Raquette Boreal Unit. Habitat changes have resulted from pre-Forest Preserve logging, wildfires, acid precipitation, recreational use, natural plant succession, protection of the forest and wildlife species through legislation, attempted reintroduction of extirpated species of wildlife and immigration of extirpated species back into the area.

One of the original factors attracting visitors to the Adirondacks, in general, was the vast array of hunting, fishing and trapping opportunities. The APSLMP indicates that these uses are legitimate and compatible with Forest Preserve concepts. DEC policy encourages these activities as part of a larger Forest Preserve experience, not just a quest for game (Doig, 1976).

Habitat areas heavily used by wildlife are often also choice locations for human trails and campsites (Hendee et al, 1990). Trails which follow easily along contours are often times used by wildlife and also make desirable routes for locating hiking trails. Bears often scrounge for food and garbage where people habitually camp. While negative human/bear encounters in this unit are minimal, the concentration of camping in distinct locations poses the potential for this to be a problem in the future. Domestic pets, mainly dogs, may also harass and stress wildlife.

Objectives:

- When feasible, re-establish self-sustaining wildlife populations of species that are Endangered, Threatened or of Special Concern in habitats where their existence was considered to be an historical element of the ecosystem.
- Monitor and afford extra protection, where warranted, to species which are Endangered, Threatened or of Special Concern that are currently using the Raquette Boreal Unit.
- Maintain and perpetuate annual hunting and trapping seasons as legitimate uses of the wildlife resources compatible with other recreational uses in the unit.
- 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.

Management Actions:

- Monitor the occurrence of Endangered or Threatened species on the unit.
- Promote educational efforts to protect spruce grouse from accidental shooting by small game hunters.
- Monitor moose that enter the area through visual observation and reports from the public.

- Continue pelt sealing of species to determine level of harvest, guarding against over harvest for species especially vulnerable to trapping (marten and fisher).
- Promote education efforts stressing multiple use and hunting seasons that are concurrent with other anticipated uses of the area. Advise visitors of the fact that there is hunting in the area so that they may dress and act accordingly during the hunting season.
- Advise visitors to the area that the potential for conflict with wildlife exists and suggest means of avoiding conflicts through a combination of on-site signage, printed Department media, and direct contact with Department staff.

5. Fisheries

Present Situation and Assumptions:

Besides the stocking of tiger musky in Carry Falls Reservoir up until 2003, no other waters in this unit have received any stockings in recent history. The lack of stocking was the reason for applying a catch and release regulation on the Jordan River as the possibility exists that the brook trout in the river may be "heritage" (without any stocking influence to genetics). No survey work has been completed on any of the waters besides Carry Falls Reservoir and thus little management has occurred. Species composition data for the ponded waters comes from survey work completed by the Adirondack Lake Survey Corporation in the late 1980s.

Objectives:

- Perpetuate and enhance a diverse, high quality fishing experience in accordance with sound biological management practices.
- Maintain the diversity of coldwater and warmwater fish populations in the unit.
- 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 Department staff.

Management Actions:

- Conduct biological and chemistry surveys of all ponds within the unit as required.
- Continue evaluation of the Jordan River brook trout population.

B. Land Protection

1. Acquisition

Present Situation and Assumptions:

The overall framework for land protection in New York State is identified in the "State Open Space Conservation Plan." The plan is built from the bottom up 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 cherished open space resources as a critical part of efforts to improve the natural resources, economy and the quality of life in New York communities. This plan is available from DEC or at the DEC website at www.dec.ny.gov

Management Actions:

- Pursue acquisition of parcels identified in the Open Space Plan from willing sellers.

2. Boundary Lines

Present Situation and Assumptions:

Aside from public roads and riparian boundaries, the unit has approximately 192 miles of boundary lines. Boundaries between NYS and Lassiter in some locations follow the 1,460 foot contour line thus making establishment and maintenance more difficult. Boundaries of all parcels acquired from NiMo are poorly marked at best. Additionally, the FERC boundary around Carry Falls Reservoir approximately follows the 1,420 foot contour and has never been surveyed or otherwise identified. A majority of the Forest Preserve boundaries have never been surveyed.

Objectives:

- Locate and post all boundary lines on a scheduled basis.
- Physically identify APSLMP unit designations on the ground for administrative and public use.

Management Actions:

- Physically inspect the boundary to determine resurvey and maintenance needs; assign a priority to each. Undertake maintenance activity to ensure all boundaries are identified and marked within the five-year implementation of this plan. Brush, paint, and sign all boundary lines at least once every seven years. Mark boundaries where they cross any trail, road, or stream. Monitor boundaries for unauthorized activities, such as illegal motor vehicle use, encroachment from private lands and timber trespass.
- Negotiate boundary line agreements with Lassiter and Brookfield Power for boundaries along contour lines.

- Survey those former Niagara Mohawk lands that are not otherwise identified by FERC or Lassiter boundaries.
- Sign unit boundaries with boundary signs identifying the land classification of the unit. Sign trailheads, trails and other entrances to the Raquette Boreal Unit with specific signage identifying the unit's designation, so that both DEC personnel and the public know individual unit designations.

3. Fire Management

Present Situation and Assumptions:

DEC is required by law (Article 9 ECL) to suppress all human-caused and natural fires. Fire activity within the Raquette Boreal unit has been historically low, with a few exceptions during the early 1900s. The predominantly hardwood forests combined with abundant annual precipitation lessens the likelihood of major fires. Short term droughts can increase the potential for fires.

Objectives:

- Adequately protect the unit from wildland fires.

Management Actions:

- Fire prevention activities will consist of public education on fire safety awareness, information disseminated through brochures and signing at informational kiosks.
- Use restrictions may be imposed on Forest Preserve lands during periods of high fire danger.

4. Administration

Present Situation and Assumptions:

Historically, the management of Forest Preserve lands by DEC has been divided along the lines separating program divisions. The individual responsibilities of the Divisions of Lands and Forests; Operations; Fish, Wildlife and Marine Resources; and Forest Rangers have been only loosely coordinated. In addition, the jurisdiction of the staff within each division has been delineated generally by county lines rather than the boundaries of Forest Preserve management units. Making the Forest Preserve unit the focus of management and improving coordination among program divisions would benefit the public by giving them a single contact for information about the unit and making the unit more identifiable as an entity with consistent recreational and resource objectives. The changes would benefit the Department by allowing staff to work more cooperatively and consistently in meeting Forest Preserve management goals.

The interaction between the Department and APA is governed by a Memorandum of Understanding regarding the implementation of the APSLMP. The various divisions of the Department have attended to the procedures laid out in the MOU in an uncoordinated

manner. Better coordination could improve efficiency in meeting management goals within and between the two agencies.

Objectives:

- Make the Raquette Boreal Unit a focus of Department management.
- Improve the management of the Raquette Boreal Unit through better coordination among Department program divisions and between the Department and APA.

Management Actions:

- Designate a unit manager for the Raquette Boreal Unit who will coordinate all management within the area. The unit manager will ensure that the management of the unit will be as efficient and consistent as possible, and will facilitate communication with the public about the management of the unit. The unit manager would be appointed by the appropriate Regional Director. Staff from all DEC program divisions with Forest Preserve management responsibilities will keep the unit manager informed about current activities, natural resource conditions, and anything else that would have a bearing on Forest Preserve management or public communication.

  For each unit under his or her jurisdiction, the unit manager would be responsible for:

  - Overseeing the preparation, periodic update and revision, amendment, and implementation of Unit Management Plans;
  - Coordinating the preparation of budget requests;
  - Assuring that the management activities of all DEC divisions comply with applicable laws, regulations, policies, the APSLMP and unit management plans;
  - Coordinating trailhead management and all Department signage within the unit;
  - Fostering communication about management activities within DEC, between DEC and APA, and between DEC and the public; and
  - Appoint a management team as another measure to advance the cause of coordinating the management of the Raquette Boreal Unit . The management team would be appointed by the Regional Director. The activities of the team would be overseen by the unit manager.

  For each unit, the unit management team typically would be composed of:

  - The unit manager;
  - One Forester;
  - Staff from the Office of Public Protection to include at least one Forest Ranger, and if appropriate, an Environmental Conservation Officer;
  - One fisheries Biologist;
  - One wildlife Biologist;
  - One Operations Supervisor; and
  - One representative of the Bureau of Real Property.

  The unit management team will be responsible for:

  - Preparing, periodically updating and revising, amending, and implementing the unit management plan;

- Monitoring resource conditions and public use, and assessing the effectiveness of the unit management plan in addressing resource and public use needs;
- Preparing budget requests for the unit; and
- Communicating regularly with each other, their program divisions, the unit manager, and the public.

5. Use Reservations and Occupancies

Present Situation and Assumptions:
Lassiter Properties and the Kildare Club use several roads across Forest Preserve within the RJBPA to reach their lands. Access to the privately owned Smith's Island crosses Forest Preserve lands within the Raquette River corridor, also part of the RJBPA. Although their use of these roads may be legitimate, their use and maintenance must conform to existing laws, policies, Article XIV and the APSLMP. Camps on the former IP lands within the Raquette River Corridor which have not yet been removed are now occupancies on Forest Preserve lands. Completion of boundary line survey work is needed to determine if there are any additional occupancies on Forest Preserve lands.
Lassiter claims to own timber rights on some of the former NIMO lands near Carry Falls Reservoir. This claim is currently in litigation.

Objectives:
- Comply with guidelines set forth in the APSLMP.
- Comply with provisions of Article XIV, Section 1 of the NYS Constitution.

Management Actions:
- Monitor use of roads utilized under reserved rights of others.
- Develop a plan and schedule for the removal of any occupancies on Forest Preserve lands as they are discovered.
- Resolve the Lassiter timber rights issue.
- If deemed necessary, install rock barriers on the Smith's Island ROW to prevent illegal motor vehicle use outside the deeded ROW.

C. Man-Made Facilities

General Objectives:
- Construct, maintain and manage all structures and improvements in conformance with the APSLMP.
- Remove any nonconforming uses.
- Establish a program of continual monitoring of the unit's conforming structures and improvements through the implementation of the MMS.
- Design all structures and improvements in accordance with a unified system developed for all Forest Preserve lands.
- Support the retention and long-term development of facility construction and maintenance expertise among Department staff.

- Supplement Department staff resources by encouraging volunteer assistance in the construction and maintenance of facilities. Enter into long-term volunteer maintenance agreements under the terms of the Adopt-A-Natural-Resource Policy.

General Management Actions:

- Prepare a project work plan for each construction or maintenance project.
- Consult the Adirondack Park Agency in accordance with the current DEC-APA Memorandum of Understanding.
- Develop a complete inventory of all structures and improvements and identify maintenance needs in accordance with the Department's Maintenance Management System (MMS).
- Comply with the requirements of all applicable laws, regulations and policies.
- Use the Limits of Acceptable Change (LAC) system to monitor and address environmental impacts related to the existence of structures and improvements in the unit.

1. Existing Facilities

a. Roads

Present Situation and Assumptions:

Public motor vehicle roads:

Currently there is no public motor vehicle access to the Lassiter Easement lands nor the Forest Preserve lands east of Carry Falls Reservoir. An alternatives analysis for motor vehicle access is contained in Section IV.D.2.b. This analysis is provided for information and future reference. Should motor vehicle access to the unit be proposed in the future an amendment to this plan will be required along with a more detailed analysis of potential impacts associated with motor vehicle access. Until such time that access issues on adjoining lands are resolved, this plan will recommend the "No Action" alternative as the only viable option for motor vehicle access to the portions of the unit east of Carry Falls Reservoir.

Motor vehicle use in and of itself, except for snowmobiling, is not a program offered by the Department. Instead, use of motor vehicles by the public is authorized on designated roads to provide access for hunting, trapping, fishing, camping or other Department programs.

The APSLMP contains several specific provisions on the public use of motor vehicles including all-terrain vehicles in units classified as Wild Forest. The APSLMP also provides, in guideline 2 under the heading *"Motor vehicles, motorized equipment and aircraft"* on page 35, that in Wild Forest areas, motor vehicle use by the general public is limited to existing public roads and Department roads that are designated by the Department as being open to the general public. Guideline 4 under the heading *"Basic*

guidelines" for Wild Forest areas, on page 33 of the APSLMP, indicates 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."* Future proposals that would increase the mileage of roads open to public motor vehicle use have to be considered in light of this provision.
Pursuant to 6 NYCRR §196.1(b)(3), public motor vehicle use in the Forest Preserve is only authorized on roads that are specifically designated and marked by the Department for motorized use. Currently, due to lack of access, there is only one Department road open to motor vehicle use on the Raquette Boreal unit, the Jamestown Falls Rd. If public motor vehicle access is acquired in the future the only road which could potentially be opened for public motor vehicle use would be the Lassiter Main Haul Road which is on lands classified as wild forest. New motor vehicle use by the public is not permitted on lands classified as primitive.

ATV Use:

There are a number of factors which must be considered before a management decision regarding public ATV use of any public road is made. These considerations are detailed below.

1. Legal Considerations

There are some key legal considerations regarding the appropriateness of opening roads to public motor vehicle use, including ATVs. The APSLMP and the Vehicle & Traffic Law, as well as the Highway Law, define legal designation of roads for such uses.

- Compliance with the APSLMP (not applicable to easement roads):

  In keeping with the APSLMP definition of "road," Adirondack Forest Preserve roads must be designed for travel by automobiles.

  The APSLMP, on page 33 Basic guideline #4 states "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 public motorized use by the public in wild forest areas that conformed to the APSLMP at the time of its original adoption in 1972."
  On page 35 of the APSLMP under "Motor Vehicles, Motorized Equipment and Aircraft," guideline 2(d) authorizes the use of ATVs "only on existing public roads or Department of Environmental Conservation roads open to such vehicles, as specified in (b) above"(guideline 2-b). Guideline 2-b specifies that the use of motor vehicles will be permitted only on: "existing public roads; on Department of Environmental Conservation roads now or hereafter designated as open for public use by motor vehicles...; or on rivers, lakes and ponds now and hereafter designated as suitable...for such motorized uses." Both of these guidelines are subject to Basic guideline #4, quoted in the previous paragraph. The definition of "road" in the APSLMP is "an improved way or partially improved way designed

for travel by automobiles and which may also be used by other types of motor vehicles ...". Taken together these three sections of the APSLMP limit ATV use to existing public roads, rather than to a new network of routes on old (abandoned) roads or trails.

Further, the APSLMP provides that "nothing in the guidelines for lands falling within each major classification shall be deemed to prevent the Department of Environmental Conservation, or any other state agency administering such lands, from providing for more restrictive management where necessary to comply with constitutional requirements or to protect the natural resources of such lands.

- Compliance with the Vehicle and Traffic Law :

  Vehicle and Traffic Law §2405(1) authorizes the DEC, by rule or regulation, to post public highways as open for ATV travel upon DEC determination that "it is otherwise impossible for ATVs to gain access to areas or trails adjacent to the highway" that are legally open to public ATV use. Vehicle and Traffic Law §118 defines a highway as "the entire width...of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel," and therefore includes any DEC road or easement road open to public motor vehicle use. Therefore, opening "public highways" to provide public ATV riding opportunities can only occur if the road provides access to areas or trails that are open to ATV use.

- 6 NYCRR §196.1

  On Forest Preserve lands, ATVs are permitted only on roads.

- Easement Terms

  The Lassiter easement provides public access to and over the property by motor vehicle, including ATVs, on roads that existed at the time the easement was signed, on new roads one-half mile or less in length with additional approval of the landowner, or on new routes with the permission of the landowner, such approval not to be unreasonably withheld.

In summary, the APSLMP, V&T law, and the easement agreements together yield the following direction and guidance:

- There is opportunity for continued public motor vehicle use on forest preserve lands, primarily on existing roads;
- Since the APSLMP does not provide for use of ATVs on trails or areas, and V&TL §2405(1) does not allow ATV use on public highways except to provide access to areas or trails open to ATV use, they collectively prohibit the Department from allowing the public use of ATVs in Wild Forest Areas. However, unique situations may arise where roads could be legally opened to ATVs in Wild Forest Areas. For example, a forest

preserve road open to public motor vehicle use that adjoins two areas (such as easement lands) that are open to ATV use could legally be opened to public ATV use, when it is otherwise impossible for ATVs to access the areas on easement lands that are open to ATVs;

- ATV use may be allowed on private roads on easement lands, if such roads are not concurrently open for other public motor vehicle use, or on portions of roads open to the public on easement lands in order to provide connections between areas or trails on easement lands open for ATV use.
- ATV trails may be established on easement lands per the terms of the easements.

Underlying Fee Title Interest: As regards roads on easement lands, the rights of underlying fee owner will be respected to ensure that any proposed public ATV use does not interfere with the reserved rights of the underlying fee owner to manage its lands.

Administrative Use of Roads and Trails:
The administrative use of roads and trails is permitted by Department personnel where necessary to reach, maintain or construct permitted structures and improvements, for appropriate law enforcement and for general supervision of public use and research. Department personnel accessing lands for administrative purposes, on any road or trail not open for public use, must comply with Commissioner Policy CP-17, *"Recordkeeping and Reporting of Administrative Use of Motor Vehicles and Aircraft in the Forest Preserve."* Administrative roads are not open for public motor vehicle use.

CP-3 Roads:
Administrative roads may also be designated for limited public use under Commissioner Policy CP-3, *" Motor Vehicle Access to State Lands Under the Jurisdiction of the Department of Environmental Conservation for People with Disabilities."* The goal of this program is to provide motorized access, to Department programs, to persons with qualifying disabilities.

As discussed previously, the APSLMP allows only very limited public use of motor vehicles on Wild Forest units within the Adirondack Park. Under the heading "Roads, jeep trails and state truck trails" on page 36 of the APSLMP, Guideline 4 provides that *"no new roads will be constructed in wild forest areas nor will new state truck trails be constructed unless such construction is absolutely essential to the protection or administration of an area, no feasible alternative exists and no deterioration of the wild forest character or natural resource quality of the area will result."*

Objectives:

- Provide for safe, adequate public access to the Raquette Boreal unit and adjoining units where appropriate.
- Provide for adequate maintenance of all open roads to prevent degradation to the natural resources.

- Maintain public motor vehicle roads within their existing footprints and in conformance with the Departments Road Maintenance Policy.
- Prevent illegal motor vehicle use.

Management actions:
- Annually maintain any roads open for public motor vehicle use.
- Provide adequate signage and rock barriers, as needed, on roads closed to motor vehicle use.

b. Parking Areas

Present Situation and Assumptions:
Due to the lack of public motor vehicle access to these lands there are no formal designated parking areas on the unit. A small pull-off located adjacent to Route 56 is used by canoers and kayakers for access to and from the Raquette River. Parking on the Jamestown Falls Road occurs at the end of the road near the river. A new parking area located away from the water would alleviate problems with parking close to the river. A location approximately one-tenth of a mile away from the river can be easily converted into a new parking area.

Objectives:
- Provide adequate parking where appropriate and in line with the area's capacity to withstand use.
- Provide for parking during winter months at locations accessible from plowed roads.

Management actions:
- Construct a 6 car parking area along the Jamestown Falls Road.

c. Trails

Present Situation and Assumptions:
The existing trails on the Raquette Boreal unit consists of three designated trails, the Bear Brook Snowmobile Trail, the Jordan River Canoe Carry, the Raquette River Canoe Carry and several unmarked carries around falls and rapids along the Raquette River. A detailed inventory and trail log showing specific problem areas and documenting trail maintenance needs has not yet been completed.

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 and cause resource problems. The degree of maintenance a trail receives varies greatly depending on the designated use of that trail. Snowmobile and ski trails may require pruning of branches to a greater height to accommodate the snow pack. Horse trails also require greater pruning heights as riders are generally 6-8 feet or more above ground level. Maintenance of all trails should be

conducted in a manner that is consistent with Department policy and adequate for the desired use and has minimal impact on the character of the trail.

Though bridging or trail-hardening structures should not be provided at every wet spot, permitting a trail to pass unimproved through extensive wetlands or across streams with unstable banks can lead to unacceptable impacts to vegetation, soils, aquatic habitats and natural visual character. On existing trails, significant wet areas should be avoided through trail relocation, where feasible. Where terrain restrictions prevent relocation, appropriate types of bridging or trail hardening should be installed where necessary to protect natural resources. When determining the location of a new trail, a route should be chosen that will minimize long-term environmental impacts and maintenance needs. To get to interior destinations, anglers and hunters are inclined to establish foot paths that follow old roads. However, old roads often follow streams or run along the toes of slopes where the water table is high and numerous springs flow across the road surface, especially in spring and fall. The amount of bridging or drainage work necessary to convert such roads to official trails can be excessive.

DEC faces a backlog of unmet trail maintenance and reconstruction on some of the unit's trails and relies on volunteers and trail contractors to close the gap. User groups, clubs, and other organizations raise resources, financial and otherwise, for trail work. Contributions come in the form of labor, materials, 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 of volunteers. Appendix 5 illustrates DEC trail classifications for various types of trails.

General Trail Objectives:

- Provide visitors with a trail system that offers a range of recreational opportunities in a manner that keeps physical, visual and other resource impacts to a minimum.
- Maintain trails to appropriate standards for their designated use.
- Minimize the mileage of hiking trails, where practical, that utilize open motor vehicle roads.
- Identify need for trail relocations and/or the need for new trails.
- Provide a unified system of trail signage and markers on Forest Preserve lands**.**

General Trail Management Actions:

- Develop LAC indicators and standards for trails.
- Trail maintenance will include removal of downed trees, ditching, clearing of brush, water bar construction and cleaning, bridge repairs and reconstruction in accordance with annual work plans and availability of funds. Bridge repair and construction will occur only in cases where public safety and/or resource protection is jeopardized.
- The Adirondack Park Agency will be consulted in any trail management activities which may involve wetlands to determine if an Agency wetlands permit is required.

- Trail sections, vulnerable to excessive damage, which cannot be relocated, will be designated and closed during wet seasons. Postings will be done at trail heads and through the media. Voluntary compliance will be the first strategy employed; mandatory regulation and enforcement will be the actions of last resort.
- Conduct a detailed trail log identifying problem areas for all trails.
- Develop work plans to remediate existing trails damaged by illegal motor vehicle use.

Snowmobile Trails

Present Situation and Assumptions:
The DEC system of existing snowmobile trails has been used by the NYS Office of Parks, Recreation, and Historic Preservation (OPRHP) to identify a snowmobile trail corridor system within the unit as part of OPRHP's statewide snowmobile trail network. OPRHP's snowmobile trail classification plays a major role in the amount of funding available for grooming and trail maintenance. DEC's Forest Preserve Snowmobile Trail Policy ONR-2 utilizes a different trail classification system and standards than that of OPRHP. (Appendix 5 contains a description of trail classifications).Trails designed by OPRHP as snowmobile "corridor" or "secondary" trails are eligible for OPRHP funding to support maintenance and grooming. Unfunded snowmobile trails may be kept clear to their allowed width only where cutting of trees or other woody growth over 3" D.B.H. is not necessary.

The Bear Brook trail is the only designated snowmobile trail on the unit. This trail runs from Carry Falls Reservoir east across the Main Haul Road to the Lassiter Easement. As this trail does not provide any connection to existing public trails, use is very light.

The Town of Colton has proposed to construct a bridge over the Raquette River on lands owned by Brookfield Power in order to provide a northeast-southwest snowmobile connection across the unit. This connection would keep the trail system within the geographic area which on average has a greater overall snow pack then areas farther to the west and north. There are numerous possible routes which could be utilized to provide this connection, but each is contingent on factors outside the scope of this UMP to occur as part of the connection. An analysis of possible alternatives for a snowmobile connection through the unit has been completed detailing several routes and their respective strengths and weaknesses. The analysis, found in Section IV.D.2.a., is provided for information and future reference. Should snowmobile access to the unit be proposed in the future an amendment to this plan will be required along with a more detailed analysis of potential impacts associated with snowmobile access. Until such time that access issues on adjoining lands are resolved, this plan will recommend the "No Action" alternative as the only viable option for snowmobile access to the portions of the unit east of Carry Falls Reservoir.

Snowmobile Trail Objectives:

- Address snowmobile trail safety concerns.
- Trails will be maintained according to their classification with all work confined to the allowed trail width. Interim Guidelines for Snowmobile Trail Construction and Maintenance and Clarification of Practice Regarding Motor Vehicle Use for Snowmobile Trail Grooming, Maintenance and Construction (dated 11/1/2000) documents will guide maintenance. The Draft Comprehensive Snowmobile Plan, currently being developed, will guide future management. In all cases wetland permits will be secured from the APA, if determined to be necessary.
- Snowmobile corridor trails will be maintained to the current policy standards no greater than eight feet wide on straightaways and twelve feet wide on steep slopes and sharp curves.

Snowmobile Trail Management Actions:

- Close the Bear Brook Snowmobile Trail.

Projected Use and Potential Impacts of Proposed Management Actions

With the exception of "community connector" trails, use levels are anticipated to remain generally the same since the only existing snowmobile trail on the unit will be closed. However, the proposed trail improvements will provide improved signage and bridging leading to a safer experience which may eventually increase use due to greater rider satisfaction.

While the goals of the Snowmobile Plan for the Adirondack Park/EIS include the goal of using private lands as much as possible, it is not entirely possible in this area. By utilizing existing roads the actual amount of new trail construction and tree cutting on the Raquette Boreal Unit can be minimized. The ability to use private lands and/or routes parallel and near to travel/transportation corridors was considered impractical due to the numerous private landowners, residential development, and dependency on numerous road crossings to avoid obstacles.

Snowmobiling is a recreational activity that is allowed by the APSLMP on state lands, which DEC manages pursuant to UMPs. A related planning document Snowmobile Plan for the Adirondack Park/EIS) that has been developed by OPRHP, DEC, and APA will supplement OPRHP's "Statewide Snowmobiles Trails Plan." The development of the Comprehensive Snowmobile Plan is in an initial phase and the draft vision statement and the draft goals have been prepared and have been the subject of public hearings throughout the State.

DEC along with the OPRHP and the APA, held a series of six meetings in 2001, to seek information and comments from the public to help develop a comprehensive snowmobile plan for the Adirondacks. The vision for the draft plan is 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 Article XIV, Section 1 of the State Constitution while also striving to enhance the economic vitality of the Park's citizens by providing trail linkages between

local communities within the Park. The plan will be developed in cooperation with local government officials, recreationists, environmental groups and snowmobile representatives.

The Snowmobile Plan outlines an Adirondack Park Snowmobile Trail System that will involve trails on public and increasingly, on private lands. Creation of this new system may involve the reconfiguration of the existing system on the Forest Preserve, including the designation of Class III trails/trail[1] segments to establish community connections and the re-designation of existing snowmobile trails located within the interior of Wild Forest Units or adjacent to private in-holdings for non-motorized use through the UMP process. It may also require the relocation or development of trails on private lands through the acquisition of fee title, conservation easements, or other access rights from willing sellers. This Class III trail designation will be unique to Forest Preserve lands. This trail designation will only be applied to trails that connect communities. In general, this type of trail will only exist on the perimeter of a unit or fall generally within 500 feet of a travel corridor. The Class III trail shall be the primary travel route for snowmobiles within a unit and shall not serve to duplicate or parallel other trails within the unit.

DEC is required to prepare UMPs and will continue to do so in conjunction with and in recognition of the development of the Draft Comprehensive Snowmobile Plan. UMPs will continue to set forth management proposals for snowmobiling, which will be consistent with and conform to the most current draft vision statement and goals of the Draft Comprehensive Snowmobile Plan, and other provisions of the Draft Comprehensive Snowmobile Plan as they are developed. Since all UMPs must conform to the Draft Comprehensive Snowmobile Plan when such a plan is finalized, individual UMPs will then be amended as appropriate.

Given that the Department must proceed with the development of UMPs prior to the completion of the Comprehensive Plan, proposals for snowmobile management and the Draft Comprehensive Snowmobile Plan will undergo separate SEQRA reviews. UMPs containing new snowmobile trail construction will be subject to SEQRA and the Comprehensive Snowmobile Plan will be subject to a Generic EIS. Although segmentation is contrary to the intent of SEQRA, the regulations (6 NYCRR617.3[g]) allow for segmentation if the segmented review is clearly no less protective of the environment. Given that the Draft Comprehensive Snowmobile Plan and UMPs containing proposals for snowmobiles will be subject to SEQRA, and that each proposal will be consistent with the most current draft vision statement and goals of the comprehensive plan, the separate review will be no less protective of the environment.

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[1]*Note: an amendment to the APSLMP will be necessary to recognize this trail classification before Class III trails may be designated in the Forest Preserve through the UMP process. A Class III trail is proposed to be up to 12 feet wide and have a prepared surface as provided for in DEC policy. The Class III trail may be groomed by motor vehicles other than a snowmobile and may be open for other authorized recreational uses, but may not include motorized recreation other than snowmobiling.*

In addition, the UMPs and the Draft Comprehensive Snowmobile Plan are subject to the restrictions of the APSLMP and the New York State Constitution (Article XIV, Section 1); thus, these overriding restrictions for the protection and preservation of natural resources will ensure that the outcome for snowmobile management in the Adirondacks will be complementary and protective of the environment. Finally, as the Draft Comprehensive Snowmobile Plan progresses into a more concrete planning document, the UMPs being developed will have a framework upon which to rely for an overall trail system resulting in UMPs and a Comprehensive Snowmobile Plan for snowmobiles that are consistent.

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 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;"* and that *"wherever feasible such replacement mileage should be located in the general area as where mileage is lost due to wilderness, primitive or canoe classification."*

In the winter of 2001, the DEC performed a GPS survey of all known existing snowmobile trails on Adirondack Forest Preserve lands. As a result of this survey it was determined that 4.0 miles of existing snowmobile trail were within the Raquette Boreal Unit. This information was incorporated into the facilities map in the Appendix.
While the material increase provision applies to all wild forest areas on a Park wide basis, efforts are made during the planning process to close unsuitable snowmobile trails to help compensate for new snowmobile trail mileage for necessary relocations or new community connector links. In order to determine if "a material increase" in trail mileage is proposed in this UMP, it was necessary to document historic mileage in the unit. DEC reviewed existing documents, staff communications, and maps to arrive at the 4.0 miles of pre-1972 snowmobile trail mileage for the Raquette Boreal Unit. Any future snowmobile trail proposals for this unit must take into account the "No Material Increase" language found in the APSLMP.

Hiking Trails and Canoe Carries

Present Situation and Assumptions:
Currently there are two designated canoe carries on the unit. A marked carry runs from Route 56 to the Raquette River below Moody Falls. This location requires paddlers to portage around the falls before reaching the take-out for the trail. An agreement with IP could allow for a carry to be located before the falls are reached. A second carry is marked from Carry Falls Reservoir to the Jordan River. The Jordan River Canoe Carry allows paddlers to reach the quieter waters of the Jordan River above the Lassiter Main Haul Road.

Management Actions:

- Maintain all hiking trails and canoe carries on the unit.
- Assess the Raquette River Corridor and identify and mark suitable portages where necessary.
- Pursue an agreement with the private landowner for public use of the trail on private land to the top of Jamestown Falls.
- Designate the trail near Jamestown Falls as a hiking trail.
- If an agreement can be reached with IP for a carry on their lands, close the existing carry from Route 56 to the river below Moody Falls.
- Designate Bear Brook Trail as a Department maintained hiking trail.
- Designate Carry Falls Trail as a Department maintained hiking trail.

Mountain Bike Trails

Present Situation and Assumptions:

Although biking on the Forest Preserve lands is generally on open motor vehicle roads and snowmobile trails, numerous trails and old roads throughout the unit are suitable for bicycles. These routes should be assessed for future designation as biking trails. 6NYCRR Part 196.7[e] provides that the use of mountain bicycles is permitted on open motor vehicle roads and designated trails in Wild Forest lands where such use is not specifically prohibited. This regulation was promulgated based on an MOU signed by the APA and DEC in 1993. The MOU allows all roads and trails in Wild Forest units to be open for mountain bike use, unless specifically prohibited, until the completion of a UMP in which mountain bike trails would be designated.

The use of mountain bikes on Forest Preserve lands classified as primitive is prohibited except on existing roads legally open to the public and on State truck trails specifically designated for such use in an individual unit management plan. Due to the lack of public access to much of the unit very little mountain biking currently occurs, however, it is possible for bikers to access the road and trail system east of the reservoir by boat and therefore the designation of roads and trails within the Raquette River Wild Forest portion of the unit is appropriate. Additionally, the Potter Brook Road, which is a private ROW and used by the Department for administrative use, will also be designated as open for mountain biking.

Objectives:

- Provide for mountain biking opportunities on trails and roads suitable for their use.

Management Actions:

- Permit the use of mountain bikes on all roads and trails on the Raquette River Wild Forest.
- Permit the use of mountain bikes on all roads and trails on the Lassiter easement.
- Permit the use of mountain bikes on the Lassiter Main Haul Road north of the Jordan River Bridge.
- Post the Lassiter Main Haul Road south of the Jordan River Bridge to prohibit mountain bikes.
- Designate the Potter Brook Road as a mountain bike trail.

Horse Trails

Present Situation and Assumptions:
The use of horses on the Forest Preserve is governed by 6NYCRR§190.8(n). This regulation allows for the use of horses anywhere on State lands except; hiking trails that are not posted for such use, snowmobile and cross country ski trails that are covered with ice and snow and lands devoted to intensively developed facilities. Ideally horse trails should provide a series of interconnected loops allowing for rides of varying lengths and not requiring return trips via the same routes. The future designation of horse trails to provide a network will depend on the reconnaissance of old roads and trails throughout the unit. Many factors must be evaluated prior to the designation of a route for use by horses including soils, topography, stream and wetland impacts as well as compatibility with other uses. Routes that follow old gravel roads with hardened surfaces and proper drainage will form the basis of any future horse trail system on the unit. Currently horse access to the existing road and trail system is not available. Future proposals for the use of horses on this unit will be addressed through an amendment to this plan.

Objectives:
- Provide a horse trail system with interconnecting trails where appropriate on the unit.

Management Actions:
- No management actions are proposed at this time.

d. Primitive Tent Sites

Present Situation and Assumptions:

The APSLMP defines a primitive tent site as; *"a designated tent site of an undeveloped character providing space for not more than three tents, which may have an associated pit privy and fire ring, designed to accommodate a maximum of eight people on a temporary or transient basis, and located so as to accommodate the need for shelter in a manner least intrusive to the surrounding environment"* (APSLMP, 2001, Page 18).

Existing camping regulations require camping to be either at designated sites or undesignated sites 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. The APSLMP guidelines for primitive tent sites in Wilderness areas (page 21) define conforming primitive tent sites as meeting the following criteria;

> *"- primitive tent sites below 3,500 feet in elevation that are out of sight and sound and generally one-quarter mile from any other primitive tent site or lean-to:"*
> *"- where severe terrain constraints prevent the attainment of the guideline for a separation distance of generally one-quarter mile between primitive tent sites, individual unit management plans may provide, on a site-specific basis, for lesser separation distances, provided such sites remain out of sight and sound from each*

other, be consistent with the carrying capacity of the affected area and are generally not less than 500 feet from any other primitive tent site;"

Under guidelines for management and use of Wild Forest areas (page 36), the APSLMP additionally allows:

> "Small groupings of primitive tent sites designed to accommodate a maximum of 20 people per grouping under group camping conditions may be provided at carefully selected locations in wild forest areas, even though each individual site may be within sight or sound and less than approximately one-quarter mile from any other site within such grouping, subject to the following criteria:
> - such groupings will only be established or maintained on a site specific basis in conformity with a duly adopted unit management plan for the wild forest area in question;
> - such groupings will be widely dispersed (generally a mile apart) and located in a manner that will blend with the surrounding environment and have a minimum impact on the wild forest character and natural resource quality of the area;
> - all new, reconstructed or relocated tent sites in such groupings will be set back a minimum of 100 feet from the mean high water mark of lakes, ponds, rivers and major streams and will be located so as to be reasonably screened from the water body to avoid intruding on the natural character of the shoreline and the public enjoyment and use thereof."

Although current camping use on the unit is low some camping does occur along Carry Falls Reservoir. During the summer months as the water level is drawn down, sandy beaches become attractive places for camping. Brookfield Power, the owners of the reservoir and the lands immediately adjacent to it , do not permit shoreline camping. The Department and Brookfield have discussed entering into an agreement which would allow DEC to control public recreation, such as camping, on lands between the Forest Preserve and the reservoir. If an agreement can be reached a new regulation will be promulgated to restrict camping on the unit, including those lands along the reservoir, to designated sites only. To provide camping opportunities in proximity to the reservoir, this plan will propose the designation of several sites on Forest Preserve lands adjacent to the reservoir. These sites will be accessed from the reservoir and will provide a legal alternative to the shoreline camping that currently occurs. Additionally, one accessible site will be identified and designated. This site will likely require the construction of an accessible route from the shoreline to the site.

Many visitors consider large groups inappropriate and undesirable in the Forest Preserve. Aside from behavioral factors, the potential to cause impact varies with party size and the type of user. Parties larger than 8 persons in a group have been documented to cause greater impacts to certain environmental and sociological resources than smaller groups (Cole, 1987, 1989, Hendee, 1990, and USDA Forest Service, 1994). Although large party use in the unit represents a small proportion of total users, they can contribute a disproportionate amount of impact when compared to smaller parties.
Large camping groups require greater campsite space and often clear areas to accommodate additional tents, store equipment, or make room to eat and congregate. Large groups cooking with wood fires generally consume greater amounts of fuel wood

and extend firewood gathering areas. Impacts tend to be more spread out and extend well beyond campsite boundaries. The designation of tent sites suitable for larger groups will occur when it has been determined that a need exists for such sites.

In order to maintain the relative primitive nature of the area around the Jordan River staff have decided that no primitive tent sites will be designated within the scenic river corridor on Forest Preserve lands classified as primitive. The river corridor shall consist of those lands one-half mile from either bank of the river. Camping will be permitted in accordance with (6 NYCRR §190.3(b)).

Camping within the Raquette River corridor, a popular canoe route, occurs at several un-designated locations. Most of these locations do not comply with 6 NYCRR §190.3(b). An assessment of the river corridor to identify locations for the designation of tent sites has not been completed. The future designation of primitive tent sites within the river corridor will focus on locating sites that are reasonably screened from the river and minimize impacts. Ideally, former leased camp locations should be utilized so long as they meet the criteria above.

Objectives:

- Reduce, eliminate, or mitigate the adverse effects on natural resources and visitor experience that result from improperly located campsites.
- Comply with the APSLMP primitive tent site standards to disperse use.

Management Actions:

- Designated and construct an accessible tent site along Carry Falls Reservoir including an access route from the highwater line of the reservoir and accessible pit privy and fire ring.
- Designate primitive tent sites, in appropriate locations, along Carry Falls Reservoir.
- Install pit privies at all new primitive tent sites.
- Designate primitive tent sites within the Raquette River Corridor. Ideally former camp locations should be utilized so long as they are suitable locations and are reasonably screened from the river.
- Annual work plans shall incorporate tent site maintenance and rehabilitation.
- Maintain small fireplaces at tent sites determined to be in fire sensitive areas.
- All primitive tent sites within the unit will be monitored for damage due to overuse.

e. Bridges and Other Infrastructure

Present Situation and Assumptions:

The bridge over the Jordan River is the only bridge on the unit. This bridge is on the Lassiter Main Haul Road and was constructed and is maintained for their access. The Town of Colton has proposed to build a bridge over the Raquette River on lands owned by Brookfield Power. This bridge, if built, would provide additional access to the unit. The bridge would be owned and maintained by the town.

Objectives:

- Provide for safe crossings of streams, wetlands and rivers that do not impact the natural resources.

Management Actions:

- None required at this time.

f. Signs, Registers, Gates and Kiosks

Present Situation and Assumptions:

The Department produces and posts a great variety of signs that give Forest Preserve visitors information about regulations and resource conditions, recommendations about safety and minimizing use impacts, as well as directions and distances to destinations. Signs are posted at trailheads, along boundaries and at interior locations. To maintain a consistent look to the Forest Preserve, dimensions, materials, colors, and wording of DEC signs should be standardized.

Trail registers, whose original purpose was to help locate people who lose their way in the backcountry, can also provide important information about the level of trail use. Presently there are no trail registers on the unit. Many trail users do not sign registers, and register sheets are occasionally destroyed or lost through vandalism. Nevertheless, trailhead registrations can give a fair indication of relative use levels and can indicate long-term use trends particularly if they are calibrated with more accurate forms of counting for a brief study period.

Kiosks are used to provide a wide variety of information at one location. Currently there are no kiosks on the unit.

Gates and rock barriers are typically used to stop or limit motor vehicle use in locations where public motor vehicle use is not permitted. Where closure is permanent, gates should be removed and replaced with barriers of large stones.

Objectives:

- Design and locate signs and trail markers in accordance with a unified system developed for all Forest Preserve lands.
- At selected trailheads, provide basic maps and descriptions of trail characteristics. Otherwise, generally provide signs needed for visitor safety and resource protection rather than for the convenience of visitors. Use the minimum number of signs necessary to achieve this objective.
- Minimize regulatory signs at interior locations in favor of signs posted at trailheads or access points. Provide detailed regulatory information to visitors before they enter the unit in brochures and maps or by other appropriate means. Create signs that carry positive messages. Rather than simply citing a regulation, a sign should explain the reasons behind the message.
- Develop a standardized method of collecting, compiling and reporting user data collected from register sheets.

Management Actions:

- Install informational kiosks at main access points to the unit.
- Install unit identification signs at the intersection of Hollywood Road and Route 56 and along Route 3 near the confluence of Dead Creek and the Raquette River.
- Install register boxes at access points along the Raquette River, including one at the Dead Creek access and one at the Moody Falls canoe carry.
- Install trail registers on the Carry Falls Trail, Jordan River Canoe Carry and Bear Brook Trail.
- Install a new gate on the main Haul Road at the intersection of the Carry Falls Trail.
- Install rock barriers on the Carry Falls Trail, Bear Brook Trail and Jordan River Canoe Carry to prevent illegal motor vehicle use.
- Install rock barriers at the old road south of Lassiter fee lands where it crosses onto Forest Preserve lands classified as primitive.

g. Water Access Sites

Present Situation and Assumptions:
The only water access site on the unit is located on the Jamestown Falls Road and provides access to the Raquette River below the falls. The site is a small sandy beach and is a popular location. Parking occurs near the water at user created locations. Section IV.C.b. proposes to move public parking to a location approximately one-tenth of a mile away from the site. A new one car accessible parking space is proposed for a location closer to the access site.

Objectives:

- Protect water quality and shoreline vegetation at locations utilized for car-top boat launching.

Management Actions:

- Maintain existing water access sites.
- Provide a one car accessible parking area adjacent to the access site.

D. Public Use and Access

1. Public Use

Present Situation and Assumptions:
The collection and analysis of data relating to number of users, group sizes and overall use of the unit needs to be addressed, especially as access to the unit is improved. Collection and summarization of register sheets must be made a Department priority. This may be greatly improved by the designation of a unit manager. The format of register sheets need to be reevaluated to determine if the most meaningful information is being collected or if additional information could be useful.

Objectives:

- Manage visitor use to keep impacts on the resource and experiences of all visitors at an acceptable level and in conformance with the areas classification according to the APSLMP.
- Monitor changes in use and level of use over time.
- Provide reasonable public access where appropriate.
- Increase visitor self-sufficiency and knowledge of personal protection**.**
- Provide adequate informational and educational material to users.
- Provide a greater Department presence within the unit during peak use times.

Management Actions:

- Develop uniform method of collecting use data across the unit.
- Develop an informational and educational program for the unit.
- Produce a unit map for the area.

2. Access

Present Situation and Assumptions:

Access to the east side of Carry Falls reservoir by motor vehicles and snowmobiles was identified as a major issue during the development of this plan. Many recreationist feel there is not adequate access to this area while others feel the protection of the primitive qualities of the area and the significant ecological communities found there could be threatened by increased access.

The APSLMP does distinguish between the different types of motor vehicles and their uses. This is important from a management perspective because the environmental and social impacts associated with each different type of motor vehicle use can vary greatly. Realizing this, it becomes more apparent that managers need to pay special attention to the specific type of motorized use being proposed or allowed in an area.

The following environmental, social and economic impacts were identified for motorized use within the Raquette Boreal Unit:

Pollution of surface waters related to road and trail maintenance activities and motorized use. Road and trail maintenance activities and increased motorized use could cause sediment to be deposited in streams, ponds and wetlands. The threat of surface water sedimentation related to construction and maintenance activities can be minimized through the use of Best Management Practices (BMP's) for water quality. These practices include the installation of sediment control measures such as filter fabric, hay bales, and silt fences. Oils, gasoline, and other petroleum based products could also enter surface and groundwater and could affect the health and safety of visitors and fish and wildlife.

Negative effects on fish and wildlife populations related to road and trail maintenance activities and motorized use. Sedimentation related to road or trail run-off could reduce the quality of fish spawning habitat. To minimize these impacts, sedimentation will be

contained and work in sensitive areas will be scheduled so as not to coincide with spawning seasons. Wildlife populations will not be significantly affected by the physical existence of roads, but the passage of users could disturb the breeding activity of certain birds. It is believed that the noise of motorized vehicles will have a relatively minor impact because wildlife tend to grow accustomed to the repetition of innocuous sounds. Visual contact with people would be more likely to cause a disturbance to wildlife.

The operation of motorized vehicles on open roads and trails may lead to instances of collision with wildlife. However, because of the limited number of open roads, relatively low frequency of use, and low speeds at which they would be traveling, wildlife mortality due to motor vehicle collisions will be very rare.

The removal of vegetation related to road and trail maintenance activities and motorized use. Routine road and trail maintenance will require that woody and herbaceous vegetation be removed from within the width of the existing road or trail. Chainsaws and other mechanized hand held equipment may be used; the use of herbicides is not anticipated. Wetland plants could be affected by vegetation management activities. However, mitigation measures will minimize the impacts of vegetation management on protected native plants.

An increase in the need for law enforcement, fire protection, and search and rescue services. Providing motorized access could lead to moderate increases in problems of trespass across private lands, fires and lost persons, which might lead to increased demands on State and local services. The incidence of these potential problems could be kept within reasonable limits through proper signing, education, and identification of boundary lines.

An increase in the visual impacts related to road and trail improvements and motorized use. Visual impacts will result from the use of motor vehicles. The clearing of vegetation from within the width of roads and trails will be necessary. Increased use and the concentrations of visitors on certain roads and trails could cause damage to the physical resource, especially if they are not properly maintained. Vegetation will be retained when possible and will only be removed to the minimum width necessary to protect the natural character of the area, provide adequate sight distances on curves, and to maintain drainage structures.

The creation of safety hazards. Allowing public motorized use could lead to a number of safety hazards for different user groups. Some danger of motor vehicle collisions will exist wherever trails utilize or cross open roads. The risk of conflict between different user groups will be reduced by properly identifying all roads and their designated uses. Barriers will be used when necessary to limit motor vehicles and ATVs from illegally accessing trails and to prohibit them from illegally crossing snowmobile bridges.

An increase in noise levels in areas surrounding open roads, trails and related facilities. The use of motor vehicles will cause increases in noise levels in the lands adjacent to open roads. The level of sound emitted by an individual motor vehicle constructed to meet modern noise emission standards is relatively low, however, the

frequency at which vehicles pass a given point can have an overall impact on surrounding lands. Prior to any management proposals to open roads or trails for public motorized uses, a careful assessment of projected use must be conducted, in order to relate how those proposals may impact areas surrounding roads or trails. In the case of snowmobiles, where a trail could potentially become a major community connector, use levels of existing trails, on surrounding units, should be quantified through the use of trail counters to better correlate possible use levels on this unit. The sound of vehicles on open roads and trails will also affect the sense of solitude available to visitors in the lands surrounding those roads. Although motorized use can only occur on lands classified as wild forest or conservation easement, impacts to adjacent lands classified as primitive must be considered. The APSLMP states "*The primary primitive management guideline will be to achieve and maintain in each designated primitive area a condition as close to wilderness as possible, so as to perpetuate a natural plant and animal community where man's influence is relatively unapparent.*

Effects of increased motorized uses on significant plant and animal communities. The New York Natural Heritage Program identifies eleven notable ecological communities, four rare or endangered animal species and two rare plant species within the Raquette Boreal Unit. The protection of theses resources is a primary management objective for this plan. Therefore, prior to any increased public motorized use an assessment of impacts on these communities, associated with that use, must be conducted.

A. Snowmobiles

A stated in Section C.1.c., the creation of an northeast-southwest snowmobile trail connection across this unit between existing trail systems within the Park is desirable to members of the snowmobiling community. Below is a detailed alternatives analysis of potential snowmobile trail connection within the Raquette Boreal Unit. As previously stated this analysis is provided for information and future reference. Any future snowmobile trail proposals will require an amendment to this plan.

Access Alternatives

The process of analyzing a route for a snowmobile trail connection involved a comparison of a number of alternatives (See Snowmobile Route Alternatives Map). To assure that the development of the list of alternatives would be comprehensive, the search for the best route was not confined by unit boundaries.

In describing and comparing the alternative routes included for discussion, the planning team included consideration of some route segments which would need to cross adjoining private lands. The analysis of each potential route involves a comparison of recreational characteristics, practical considerations such as land ownership, and available ecological information, such as information about rare species and significant habitats from the records of the Natural Heritage Program, regional mapping of deer wintering yards, and wetlands.

1. *No Action: Do not provide Snowmobile Access to the Unit*

Advantages: Not providing snowmobile access on the unit would require no trail construction thus minimizing impacts on the physical and biological aspects of the Forest Preserve lands as well as maintaining a more complete sense of remoteness which is important to the management of areas classified as primitive.

Disadvantages:
The existing snowmobile trail system, north of the unit, passes through a geographic area which generally receive less snowfall than does the Raquette Boreal unit. The lack of snow in these areas can lead to unnecessary trail damage and shorten the viable snowmobiling season, thus reducing the desirability of the trail network for snowmobiling and potentially having a negative economic impact for the entire area.

2. *Tupper Lake to IP Five Mile Tract via Conservation Fund and Lassiter Main Haul Road*.
Route segments: 1,3,3a,5,6,8,9,9b,12,12a and 13. Route 9a could be used as a substitution for the portion of route 9 on Lassiter fee lands. Routes 2 and 2a could be alternatives to using routes 1,3,3a,and 5.

This route would utilize the River Road which is the border between the Raquette River Corridor, classified as primitive, and the Conservation Fund Easement(routes 12 and 13). There is an existing unmarked trail which connects the road system on the CF Easement to the Lassiter Main Haul Road(route 12a). If the State cannot acquire the rights, or an agreement, for public use of the Main Haul Road on Lassiter fee lands(route 9b) a new trail would need to be constructed within the 500 foot strip classified as wild forest between the sections of the Main Haul Road which are on Forest Preserve lands(route 9a). The route would continue north on routes 5,6 and 8, to the vicinity of the Joe Indian Association Property and would then connect to the existing road system on the IP Five Mile Tract(route 3) via a new connector located on the Lassiter Easement(route 3a). If routes 2 and 2a are preferable the route would leave the Main Haul Road at the north end of segment 6 and follow a woods road towards the Lassiter/IP boundary. A new trail would need to be constructed between the end of this woods road and the existing IP road system. From the existing IP road system the West Branch of the St. Regis River is crossed on an existing bridge. The route would then tie into the existing snowmobile trail system connecting to the Santa Clara Tract Easement and points east.

Advantages: Most of this route would utilize existing gravel roads. The roads on the CF Easement are currently used for snowmobiling on a yearly agreement.

Disadvantages: This route would require the acquisition of a permanent easement on the CF lands in order to secure the trail permanently. Where the trail crosses between the CF Easement and the Main Haul Road it would go through lands recently classified as primitive. A reclassification for a Primitive Corridor would be required for this route and could potentially alter the future possibility of the area becoming wilderness. Additionally, the route across CF lands passes through know spruce grouse habitat, and until the impacts of snowmobiling on spruce grouse are understood these areas should be

avoided. This route may also require the construction of a connector between two sections of the Main Haul Road, it is not known if there are wetlands involved along this route. A connector to IP's Five Mile Tract would also be required to complete the route and at this time the IP Easement has not been finalized.

3. *Tupper Lake to Stark Road via Conservation Fund and Lassiter Main Haul Road and across Joe Indian Association.*
Route segments: 4,5,6,8,9,9b,12,12a, and 13. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: Essentially the same as alternative 1 except a connector to IP would not be needed. Access across Joe Indian would be on an existing gravel road.

Disadvantages: Similar to alternative 1. Additionally, access would need to be acquired or agreed upon from the Joe Indian Association and it is uncertain if they are interested in allowing snowmobiling access on their lands.

4. *Tupper Lake to Garlough Road via Conservation Fund and Lassiter Main Haul Road and across Little Kildare Club*.
Route segments: 7,8,9,9b,12,12a and 13. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: Essentially the same as alternative 1

Disadvantages: Similar to alternative 1. Additionally, access would need to be acquired or agreed upon from the Little Kildare Club and it is uncertain if they are interested in allowing snowmobiling access on their lands.

5. *Childwold to IP Five Mile Tract via IP, Conservation Fund and Lassiter Main Haul Road*.
Route segments: 1,3,3a,5,6,8,9,9b,12,12a and 14. Segment 9a would be substituted for 9b if an agreement to cross Lassiter fee lands could not be reached. Route segments 2 and 2a could be used as alternatives for segments 1,3,3a, and 5.

Advantages: This route would be the best connection to the existing trail system between Tupper Lake and Cranberry Lake. Most of the route would use existing gravel roads.

Disadvantages: The biggest disadvantage to this route would be the need to bridge the Raquette River. A bridge at this location was removed in 1990, however the old abutments still remain. Reconstructing a bridge at this location would be in conflict with the management goals for scenic rivers which are to preserve and restore their natural scenic qualities. Additional disadvantages would be the same as alternative 1 and the need to acquire public snowmobile rights to cross IP's Raquette River Tract.

6. *Childwold to Stark Road via IP, Conservation Fund and Lassiter Main Haul Road and across Joe Indian Association.*
Route segments; 4,5,6,8,9,9b,12,12a and 14. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: Same as alternative 4

Disadvantages: Same as alternative 4 with the addition of access needing to be acquired on Joe Indian Association.

7. *Childwold to Garlough Road via Conservation Fund and Lassiter Main Haul Road and across Little Kildare Club***.**
Route segments: 7,8,9,9b,12,12a and 14. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: Same as alternative 5

Disadvantages: Same as alternative 4 with the addition of access needing to be acquired Little Kildare Club.

8. *Tupper Lake via Kildare Road and Lassiter Main Road to Tupper Lake to IP Five Mile Tract.*
Route segments: 1,3,3a,5,6, and 15. Route segments 2 and 2a could be used as alternatives for segments 1,3,3a, and 5.

Advantages:
This route would use existing motor vehicle roads for its entire length with the exception of a connector to IP's Five Mile Tract.

Disadvantages:
This route would require the acquisition of rights from several different private landowners and it is uncertain if they are willing to sell those rights. The connection provided from this route is generally more north-south than the desired east-west connection.

9. *Tupper Lake via Kildare Road and Lassiter Main Road to Tupper Lake and across Joe Indian Association***.**
Route segments: 4,5,6 and 15.

Advantages:
This route would utilize existing roads for its entire length, thus no new trail construction would be required.

Disadvantages:
Same as alternative 8 with the additional need to acquire access across Joe Indian Association.

10. *Tupper Lake via Kildare Road and Lassiter Main Road to Tupper Lake and across Little Kildare Club*.
Route segments: 7,7a,6 and 15.

Advantages:
Same as alternative 9.

Disadvantages:
Same as alternative 8 with the additional need to acquire access across Little Kildare.

11. *State Route 56 across proposed Town of Colton bridge to Lassiter Main Haul Road, on Forest Preserve, to IP Five Mile Tract.*
Route segments; 1,3,3a,5,6,8,9,9b and 11a. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached. Route segments 2 and 2a could be used as alternatives for segments 1,3,3a, and 5.
Advantages: This route would provide a link from the existing trail system on the Grasse River Wild Forest to the trail system on the Santa Clara Tract Easement. The route would be located mostly on gravel roads, although some new trail construction would be needed. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Developing this route would require the construction of a bridge over the Raquette River, the span would be approximately 240 feet. The proposed site for the bridge would require major road construction to reach the site with materials and equipment for construction. A new trail would need to be constructed between Route 56 and the bridge site as well as from the bridge to the Lassiter Main Haul Road. A route across Forest Preserve is theoretically possible but a review of APA wetlands maps show extensive wetlands on the Forest Preserve lands between the bridge site and the road. Without the acquisition of a route connecting to the trail system east or north of the unit this route would create a dead-end trail.

12. *State Route 56 across proposed Town of Colton bridge to Lassiter Main Haul Road, on Forest Preserve, to Stark Road across Joe Indian Association.*
Route segments; 4,5,6,8,9,9b and 11a. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: The route would be located mostly on gravel roads, although some new trail construction would be needed. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Similar to alternative 12, however this route would not make the desired east-west connection to the existing trail system outside the unit. Also, access would need to be acquired across the Joe Indian Association.

13. *State Route 56 across proposed Town of Colton bridge to Lassiter Main Haul Road, on Forest Preserve, to Garlough Road across Little Kildare Club.*
Route segments; 7,8,9,9b and 11a. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: The route would be located mostly on gravel roads, although some new trail construction would be needed. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Similar to alternative 13 and access would need to be acquired across the Little Kildare Club.

14. *State Route 56 across proposed Town of Colton bridge to Lassiter fee lands and Main Haul Road to IP Five Mile Tract*
Route segements; 1,3,3a,5,6,8,9,9b and 11. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached. Route segments 2 and 2a could be used as alternatives for segments 1,3,3a, and 5.

Advantages: This route would provide a link from the existing trail system on the Grasse River Wild Forest to the trail system on the Santa Clara Tract Easement. The route would be located mostly on gravel roads, although some new trail construction would be needed. The route to Lassiter fee lands would avoid any major wetlands. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Developing this route would require the construction of a bridge over the Raquette River, the span would be approximately 240 feet. The proposed site for the bridge would require major road construction to reach the site with materials and equipment for construction. A new trail would need to be constructed between Route 56 and the bridge site as well as from the bridge to the Lassiter Main Haul Road. Without the acquisition of a route connecting to the trail system east or north of the unit this route would create a dead-end trail.

15. *State Route 56 across proposed Town of Colton bridge to Lassiter fee lands and Main Haul Road, two sections, to Stark Road across Joe Indian Association.*
Route segments: 4,5,6,8,9,9b,and 11. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: The route would be located mostly on gravel roads, although some new trail construction would be needed. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Similar to alternative 14, additionally this route would not make the desired east-west connection to the existing trail system outside the unit. Also, access would need to be acquired across the Joe Indian Association.

16. *State Route 56 across proposed Town of Colton bridge to Lassiter fee lands and Main Haul Road, two sections, to Garlough Road across Little Kildare Club.*
Route segments; 7,8,9,9b and 11. Segment 9a would be substituted for 9b if an agreement to cross lassiter fee lands could not be reached.

Advantages: The route would be located mostly on gravel roads, although some new trail construction would be needed. Additionally, the proposed bridge would provide access to the unit for other forms of non-motorized recreation.

Disadvantages: Similar to alternative 14, additionally this route would not make the desired east-west connection to the existing trail system outside the unit. Also, access would need to be acquired across the Little Kildare Club.

Comparison of Alternatives and Selection of a Preferred Alternative

A review of the 16 alternative snowmobile routes selected for consideration shows each has advantages and disadvantages. Table 11 gives a comparison of the alternatives in terms of relative mileages in various categories. The distances were derived by map measurements of potential routes and are presented for general comparison purposes only. In comparing alternatives, their benefits and drawbacks were weighed in terms of their relevance to the objectives stated earlier. Many of the alternatives would require the acquisition of rights on private lands, which can only be acquired from willing parties.

In assessing the alternatives according to the objectives, it was clear that some alternatives should be given less consideration based on their potential impacts to resources. Alternatives 2,3,4,5,6,7,8,9, and 10 would require crossing lands classified as primitive which would require the reclassification to a Primitive Corridor to allow for a snowmobile trail. Given the primitive classification and unique habitat as well as the presence of endangered species on these lands these options would not be consistent with the overall objectives for this areas future. These nine alternatives will only be explored further if no other reasonable alternative can be found.

Alternative 1- the no action alternative, would leave the existing trail system outside of the unit as the only connection between the trails in the Cranberry Lake region and trails in the Santa Clara region. Due mostly to elevation difference the geographic regions where the current trail system goes north of the unit receives less snowfall than the Raquette Boreal Unit. This leads to poor snowmobiling conditions, especially during the later part of the season or during years of minimal snowfall amounts. These poor conditions can lead to resource impacts on trails, shortening of the viable snowmobiling season and making the trail system less desirable for snowmobilers, all of which may potentially impact the economies of local communities. This alternative would also maintain the relative primitiveness of the area east of Carry Falls Reservoir by not introducing public snowmobiling to the area.

Alternatives 11,12,13,14,15 and 16 all have possibilities of providing a connection through the unit. However, alternatives 12,13,15 and 16 would not provide the desired east-west connection between the existing snowmobile trail system. All of these alternatives would require the acquisition of rights on private lands as well as the Town of Colton constructing a bridge over the Raquette River on Brookfield Power lands. The Town has also reserved a right to construct a parking area on former Niagara Mohawk lands, now Forest Preserve, where the proposed trail would intersect Route 56. At this time it is unknown if any of the private landowners are willing to negotiate for these rights. **The comparison of these six alternatives is based on the assumption that these rights could be acquired.** If the Department is informed by any of these parties that they have no desire in allowing access across their lands those alternatives would then fall from consideration.

Because each of these alternatives is dependent on future acquisitions, and the Town of Colton's commitment to construct a bridge over the Raquette River, the preferred alternative will be conditioned on those actions being completed.

The Preferred Alternative:
Alternative 1- The "No Action" Alternative- At this time there is no possible trail connection that could be provided across the unit as access is limited by surrounding private lands. Although it is likely access will be acquired across these lands in the future, it would not be appropriate to propose management actions in this plan that are contingent on future acquisitions. Therefore, the "No Action" alternative is selected as the preferred alternative.

Alternative 11- This route would be located on mostly Forest Preserve and easement lands with the exception of where it passes through the FERC boundary. The route would leave Route 56, on a newly constructed trail, and travel .4 miles to the bridge location. From the east side of the bridge a new trail would stay on Forest Preserve for another 1.6 miles to the Lassiter Main Haul Road. The Main Haul Road would be followed for approximately 2.3 miles on Forest Preserve and then 9.0 miles on easement to the vicinity of the Lassiter/Joe Indian boundary. If an agreement cannot be reached with Lassiter for use of the entire Main Haul Road and additional .7 miles of new trail would need to be constructed on Forest Preserve to connect the two sections of the Main Haul Road located on State land. The route would then connect to the IP Five Mile Tract via a proposed new connector trail approximately one mile in length.

Alternative 12- This route would follow the same route as alternative 8 except it would continue across the Joe Indian Association property to the Stark Road rather than onto IP.

Alternative 13- Similar to 8 and 9, however, this alternative would use the Main haul Road for a distance of 4.7 miles on easement lands and then 4.0 miles on the Little Kildare Club property to the Garlough Road.

Alternative 14- This alternative would utilize the same route from Route 56 to the Bridge site but would then cross Lassiter fee lands to the Main Haul Road and would then continue the same as alternative 11. If an agreement cannot be reached with Lassiter for use of the entire Main Haul Road and additional .7 miles of new trail would need to be constructed on Forest Preserve to connect the two sections of the Main Haul Road located on State land.

Alternative 15- Similar to alternative 14 except rather than cross IP, the route would cross the Joe Indian Association property to the Stark Road.

Alternative 16- Similar to Alternative 14 except only 4.7 miles of roads on the Lassiter Easement would be used and the route would then cross the lands of the Little Kildare Club to the Garlough Road.

Table 11: Snowmobile Alternatives: Mileage by Tail Category

Trail Category	Mileages by Alternative															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CF Easement Road	NA	10.4	10.4	10.4	3.4	3.4	3.4	0	0	0	0	0	0	0	0	0
IP Easement Road	NA	NA	NA	NA	1.1	1.1	1.1	0	0	0	0	0	0	0	0	0
New Trail on Forest Preserve	NA	2.6	2.6	2.6	2.8	2..8	2.8	0	0	0	2.0 2.7*	2.0 2.7*	2.0 2.7*	1.1 3.8*	1.1 3.8*	1.1 3.8*
Lassiter Haul Rd on Forest Preserve	NA	2.9	2.9	2.9	2.9	2..9	2.9	0.8	0.8	0.8	2.3	2.3	2.3	3.4	3.4	3.4
Lassiter Haul Rd on easement	NA	9.0	9.0	4.7	9.0	9.0	4.7	11.0	11.1	8.0	9.0	9.0	4.7	9.0	9.0	4.7
New Trail on easement	NA	1.0	0	0	1.0	0	0	1.0	0	0	1.0	0	0	1.0	0	0
Mileage on Private Lands Other Than State Right-of-Way	NA	0	2.4	4.0	0	2.4	4.0	4.8	7.2	8.8	0	2.4	4.0	.75	3.2	4.0
Total Length of Route	NA	25.9	27.3	24.6	20..2	21.6	18.9	17.6	16.9	17.6	14.3 15.0*	15.7 16.4*	13.0 13.7*	14.55 15.25*	16.0 16.7*	12.5 13.2*

*Alternatives 11,12,13,14,15 and 16 would require an additional 0.7 miles of new trail on Forest Preserve if an agreement with Lassiter cannot be reached to use the entire Main haul Road.

Snowmobile Access Alternatives - Potential Impacts on Rare, Threatened and Endangered Species and Critical Habitats.

Table 12. Potential Deer Yard and Spruce Grouse Habitat Traversed by Potential Snowmobile Trail Segments.

Alternative trail Segments	Total Mileage	Mileage in Potential Spruce Grouse Habitat	Mileage in potential Deer Yards	% Spruce grouse	% Deer Yard
1	1.61	0.23	0.13	14.0%	7.9%
2	6.24	1.31	1.20	21.0%	19.2%
2a	0.34	0.00	0.01	0.0%	1.6%
3	2.30	0.11	0.03	4.9%	1.2%
3a	0.85	0.01	0.01	1.4%	1.3%
4	2.41	0.44	0.37	18.1%	15.3%
5	2.14	0.12	0.07	5.7%	3.4%
6	4.90	0.55	0.48	11.1%	9.8%
7	6.98	0.92	0.84	13.2%	12.0%
7a*	1.35	0.66	0.94	48.7%	69.4%
8	6.71	1.23	0.98	18.4%	14.7%
9	2.12	0.33	0.14	15.7%	6.5%
9a	0.68	0.13	0.12	19.2%	17.5%
9b	0.98	0.17	0.13	17.1%	13.2%
10	0.54	0.02	0.00	3.6%	0.0%
11	1.72	0.02	0.03	1.1%	1.9%
11a	1.02	0.64	0.76	63.0%	74.4%
12	1.37	0.27	0.23	19.8%	16.9%
12a	1.39	0.06	0.02	4.0%	1.5%
13	9.35	0.89	0.89	9.5%	9.5%
14	1.46	0.24	0.19	16.3%	13.2%
15**	7.67	2.28	2.14	29.7	27.9%

*Trail segment 7a lies 302 meters from Natural Heritage Occurrence Point for spruce grouse (Falcipennis canadensis)

**Trail segment 15 lies7 meters from Natural Heritage Occurrence Point for brook snaketail (Ophiogomphus aspersus)

b. Motor vehicle access

A stated in Section C.1.a., the need to provide public motor vehicle access to the unit east of Carry Falls reservoir is desirable for many recreationist. Alternatively, maintaining the existing limited access to the unit would provide for more primitive opportunities on the unit. Below is a detailed alternatives analysis of potential motor vehicle access to the portions of the Raquette Boreal Unit east of Carry Falls reservoir. At this time no action is being proposed to improve motor vehicle access if access is proposed in the future an amendment to this plan will be necessary.

Access Alternatives

The process of analyzing a route for public motor vehicle access involved a comparison of a number of alternatives (See map). To assure that the development of the list of alternatives would be comprehensive, the search for the best route was not confined by unit boundaries.

In describing and comparing the alternative routes included for discussion, the planning team included consideration of some route segments which would need to cross adjoining private lands. The analysis of each potential route involves a comparison of recreational characteristics, practical considerations such as land ownership, and available ecological information, such as information about rare species and significant habitats from the records of the Natural Heritage Program, regional mapping of deer wintering yards, and wetlands.

1. No Action: Maintain the Current Access to the Unit

Advantages: Not providing motor vehicle access to those portions of the unit east of Carry Falls Reservoir would minimize impacts on the physical and biological aspects of the Forest Preserve lands as well as maintaining potential opportunities for remoteness and solitude.

Disadvantages:
By not providing adequate public access to Forest Preserve and easement lands, limits the use and enjoyment of these lands by the public. As with any publicly owned land the recreating public has an expectation of at least being able to reach the boundary of the area for access. At this time those areas east of the reservoir are only accessible by boat or by lessees of the adjoining easement lands.

2. Access via IP Five Mile Tract
Route segments: 2 or 5
Advantages:
Access via this route would be entirely on easement lands and mostly on existing gravel roads. Route 5 was identified as a route for public motor vehicle access in the easement purchase agreement with IP. The use of route 2 as an alternative would have to be negotiated with IP.

Disadvantages:
Disadvantages to this route(2) would be the need to upgrade an existing connector trail to a motor vehicle road between the IP Five Mile Tract to the Lassiter Main Haul Road. Route 5 would require the construction of a connector road between existing roads on both Lassiter and IP. The Department has reached an agreement with IP to acquire an

easement on this tract, however local Town opposition to the acquisition has kept the transaction from being completed. This acquisition would need to occur prior to this route being selected.

3. From Stark Road across Joe Indian Association
Route segments: 3

Advantages:
This route would provide access, from a Town road, over an existing gravel road to the Lassiter Main Haul Road. No new road construction would be required.

Disadvantages:
This route would require the acquisition of an easement for public motor vehicle access across private lands and the owner may not be willing to sell those rights.

4. From Garlough Road across Little Kildare
Route segments: 4

Advantages:
This route would provide access, from a Town road, over an existing gravel road to the Lassiter Main Haul Road. No new road construction would be required.

Disadvantages:
This route would require the acquisition of an easement for public motor vehicle access across private lands and the owner may not be willing to sell those rights.

5. From Childwold across IP and CF easements to Lassiter Main Haul Road
Route segment:6

Advantages:
This route would provide direct access from a major State highway.

Disadvantages:
The biggest disadvantage to this route would be the need to bridge the Raquette River. A bridge at this location was removed in 1990, however the old abutments still remain. Reconstructing a bridge at this location would be in conflict with the management goals for scenic rivers which are to preserve and restore their natural scenic qualities. This route would also require the acquisition of permanent ROW's across both IP and the CF easements. In order to connect to the Main Haul Road, portions of Forest Preserve classified as Primitive would need to be reclassified as a Primitive Corridor to allow for road construction and motor vehicle use. Additionally, this route would pass through areas of known spruce grouse populations and habitat. Until such time that impacts on spruce grouse associated with motor vehicle are understood, introducing motor vehicles to this area should be avoided.

6. From SH 3 via River Road on CF Easement
Route segments: 6 and 7

Advantages:
Most of this route would use existing gravel roads and provide direct access from a major highway.

Disadvantages:
Same as alternative 5 except a bridge would not be required.

7. From Tupper Lake via Kildare Road and Lassiter Main Road to Tupper Lake
Route segment: 8

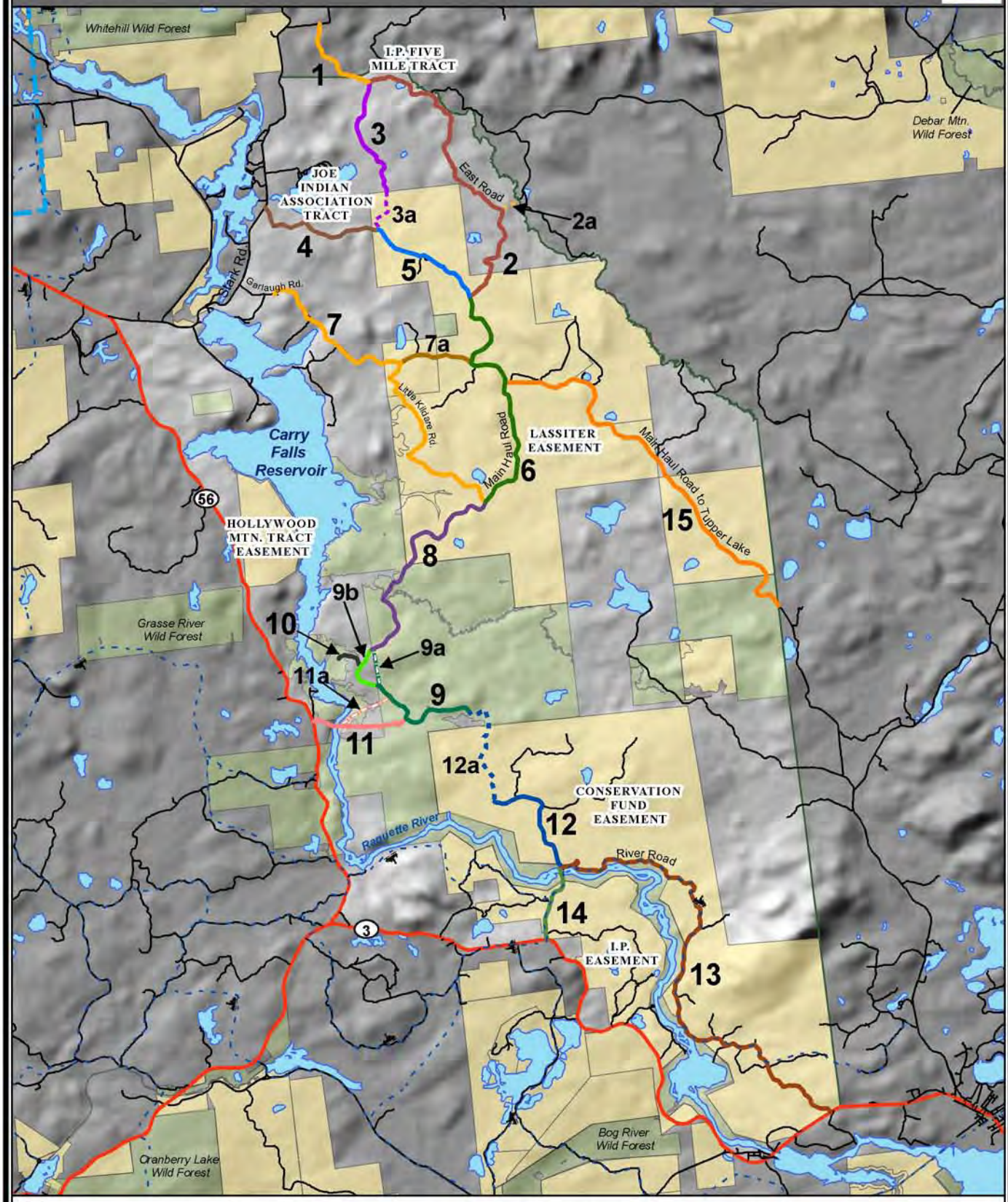
Advantages:
This route would use existing gravel roads for its entire length so no new road construction would be required.

Disadvantages:
ROW's would need to be acquired across private lands from the end of the Town road to the Forest Preserve boundary. A section of the existing road crosses Forest Preserve lands classified as Primitive and would require reclassification to a Primitive Corridor.

Raquette Boreal Wild Forest

Snowmobile Route Alternatives

New York State Department of Environmental Conservation



Snowmobile Alternatives
(Segments vary in color)
- Existing Roads
- Existing Trails
- No Current Trail

Transportation
- Local Road
- State Road
- Existing Snowmobile Trails

Land Classification
- Forest Preserve
- Easements

N

Scale 1:160,000
1 inch = 2.53 Miles

Map produced by the SUNY-ESF Adirondack Ecological Center under the auspices of the UMP-GIS consortium. Ownership boundaries are not for legal use.
9/12/06

Comparison of Alternatives and Selection of a Preferred Alternative

A review of the seven alternatives for motor vehicle access shows each has advantages and disadvantages. All of the alternatives, except alternative 1, would require the acquisition of rights on private lands, which can only be acquired from willing parties.

In assessing the alternatives according to the objectives, it was clear that some alternatives should be given less consideration based on their potential impacts to resources. Alternatives 5,6, and 7, would require crossing lands classified as Primitive which would require a reclassification to a primitive corridor to allow motor vehicle use. Given the unique habitat and the presence of endangered species on these lands a reclassification would not be consistent with the overall objectives for this areas future. These three alternatives will only be explored further if no other reasonable alternative can be found.

Alternative 1-The no action alternative would leave the area east of Carry Falls Reservoir without any reasonable public access. As stated above, there is an expectation by the public to have reasonable access to Forest Preserve and conservation easement lands. This alternative would also maintain the relative primitiveness of the area east of Carry Falls Reservoir by not introducing public motor vehicle to the area.

Alternatives 2, 3 and 4 have possibilities of providing access to the unit. However, all would require the acquisition of rights on private lands. At this time it is unknown if any of the private landowners, with the exception of IP, are willing to negotiate for these rights. **The comparison of these three alternatives is based on the assumption that these rights could be acquired.** If the Department is informed by any of these parties that they have no desire in allowing access across their lands those alternatives would then fall from consideration.

The Preferred Alternative:
Alternative 1- The "No Action" Alternative- At this time there is no opportunity to provide public motor vehicle access to the unit east of Carry Falls Reservoir as access is limited by surrounding private lands. Although it is likely access will be acquired across these lands in the future, it would not be appropriate to propose management actions in this plan that are contingent on future acquisitions. Therefore, the "No Action" alternative is selected as the preferred alternative. Future proposals will require an amendment to this plan.

Alternative 2 - This alternative would provide motor vehicle access to the Raquette Boreal Unit from IP's Five Mile Tract to the north. To complete this route a new connector road, approximately one mile in length, would need to be constructed. The location of the possible connector follows an old skid road and would be fairly easy to construct. As IP is willing to sell the State a conservation easement on the Five Mile Tract, including motor vehicle rights, this alternative has the greatest potential to occur.

Alternative 3- This would be the most direct, shortest access to the Lassiter Main Haul Road on existing gravel roads. However, it is uncertain if the private landowner is willing to sell rights for public access across their lands.

Alternative 4- This route would also use existing gravel roads to reach the Lassiter Main Haul Road. This route is the longest of the three alternatives as far as the distance across private lands. It is uncertain if the private landowner is willing to sell rights for public access across their lands.

Motor Vehicle Access Alternatives -Potential Impacts on Rare, Threatened and Endangered Species and Critical Habitats.

Table 13. Potential Deer Yard and Spruce Grouse Habitat Traversed by Road Segment.

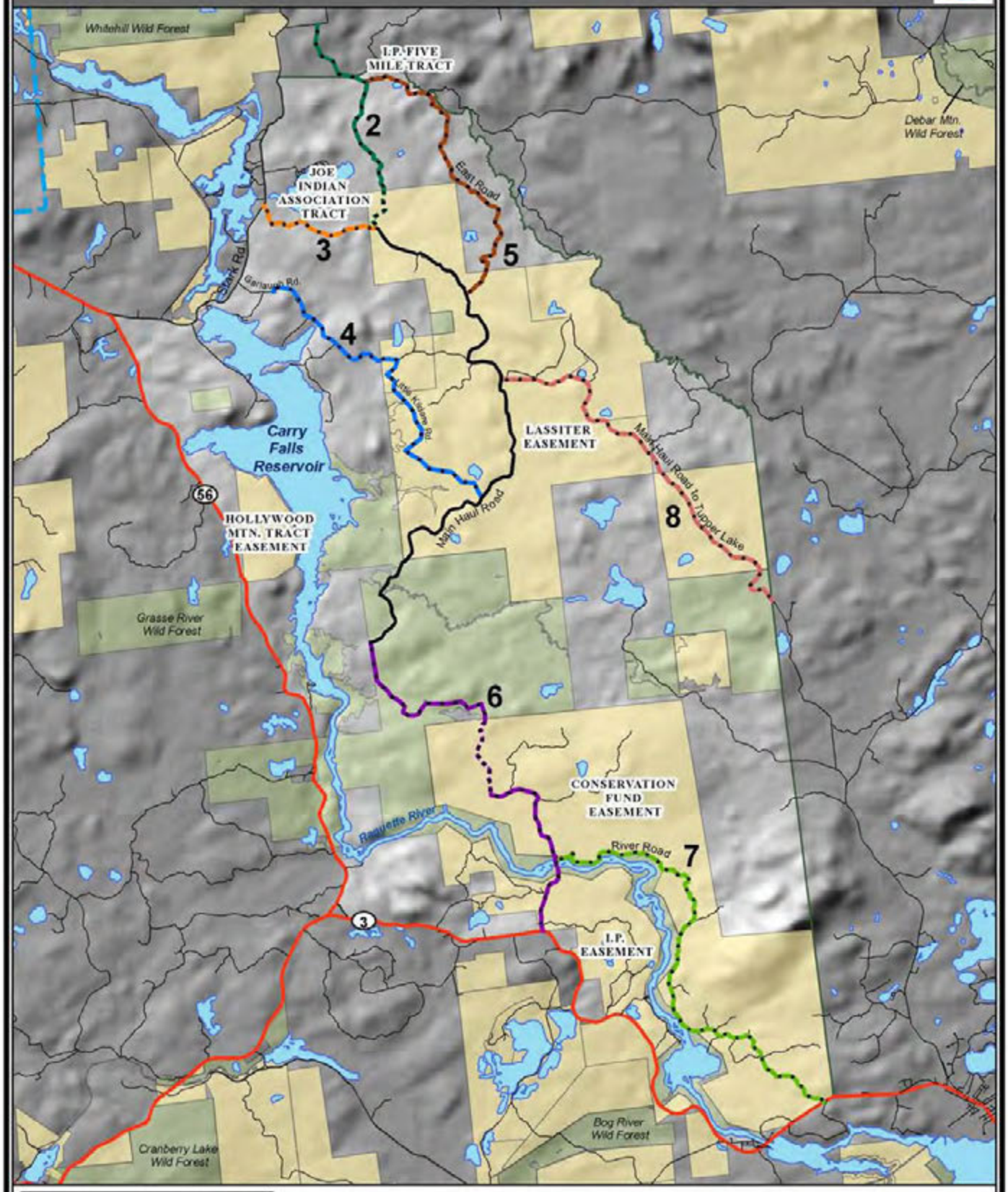
Alternative Road Segments	Total Mileage	Mileage in Potential Spruce Grouse Habitat	Mileage in potential Deer Yards	% Spruce grouse	% Deer Yard
2	4.67	0.35	0.20	7.5%	4.2%
3	2.40	0.43	0.37	18.1%	15.4%
4	6.84	1.00	0.92	14.6%	13.5%
5	6.24	1.31	1.20	21.0%	19.2%
6	8.52	0.94	0.74	11.0%	8.7%
7	9.35	0.89	0.89	9.5%	9.5%
8*	7.67	2.28	2.14	29.7%	27.9%

*Road segment 8 lies 7 meters from Natural Heritage Occurrence Point for brook snaketail (Ophiogomphus aspersus)

Raquette Boreal Wild Forest

Road Access Alternatives

New York State Department of Environmental Conservation



Road Access Alternatives

(Routes vary in color)

- Existing Road
- Existing Trail

Transportation

- Local Road
- State Road

Land Classification

- Forest Preserve
- Easements

N

Scale 1:160,000
1 inch = 2.53 Miles

Map produced by the SUNY-ESF Adirondack Ecological Center under the auspices of the UMP-GIS consortium. Ownership boundaries are not for legal use.
9/12/06

3. Access for Persons with Disabilities

Present Situation and Assumptions:
Past management of the Raquette Boreal Unit has not focused on provisions of access for people with disabilities. Slopes and other terrain constraints make most of the unit difficult to access. Exposed roots, rocks and other natural barriers limit access, as well. In 2001, a Consent Decree was reached in settlement of a United States District Court case of Galusha v. NYS DEC et al. (ADA Consent Decree). As a result of that settlement, the Department agreed to pursue numerous projects within the Forest Preserve in order to provide access to recreational programs for people with disabilities. Additionally, it was agreed that during the development of future UMP's additional opportunities would be evaluated.

The Department, in appropriate locations, provides motorized access to Department programs, for persons with qualifying disabilities, through the issuance of permits under Commissioner Policy 3; Motor Vehicle Access to State Lands Under the Jurisdiction of DEC for People with Disabilities (CP-3).

Objectives:
- Increase access opportunities for people with disabilities where such development is economically feasible, does not alter the fundamental nature of existing programs, is compliant with Department regulation and policy, and conform to the guidelines of the APSLMP.

Management Actions:
- Develop methods to monitor visitor use and experiences to ensure expectations are being met.
- Designate and construct an accessible campsite along Carry Falls Reservoir including an access route from the highwater line of the reservoir, accessible pit privy and fire ring.
- Modify the existing water access site at Jamestown Falls to make it accessible. Modification will include providing a one car accessible parking space and an access route to the waters edge.

4. Motorboat Use

Current motorboat use on the unit occurs mostly on Carry Falls Reservoir and portions of the Raquette River. Motorboat access to the reservoir is from two boat launches operated by Brookfield Power. Interior ponded waters on Forest Preserve lands in the unit are generally to small for motorboats. The flatwaters of the Jordan River above the bridge on the Main Haul Road could potentially be accessed by motorboats. However, given the unique character of the river and its location within the RJBPA, a new regulation will be proposed making it motorless use only.

Objectives:

- Provide for motorized boating opportunities on appropriate waters in the unit.
- Protect potentially sensitive areas.
- Identify and monitor user conflicts.

Management Actions:

- Promulgate a new regulation under 6NYCRR § 196 To prohibit the use of motorboats on the Jordan River.

5. Proposed Regulations

Several of the management proposals outlined in this unit require the promulgation of new rules and regulations in accordance with DEC policies and procedures, the State Environmental Quality Review Act (SEQRA), and the APSLMP. Statutory authority for regulatory change is found in ECL §9-0105(3) and ECL §9-0105(3) § 816.1 through 816.3. Section 816.3 of the act directs DEC to develop rules and regulations necessary to implement the APSLMP. Existing regulations relating to public use of State lands under the jurisdiction of the Department are found in 6 NYCRR Part 190. These proposed regulations constitute the minimum level of direct regulation necessary to assure APSLMP compliance and directly influence visitor behavior to protect resources and the experiences of visitors.
Additional, Park-wide, regulations are needed to ensure the protection of resources. This regulation should address the use of soap or detergents in any waterbody; disposal of food scraps or any food container in any waterbody; the marking, cutting or clearing of trails; and the leaving of any personal property on State lands for more than 48 hours. A Forest Preserve-wide regulation is also needed to limit the number of persons per campsite to 8.

Regulation changes proposed throughout this UMP are summarized below:

- Promulgate a new regulation restricting camping between the Lassiter Main Haul Road and Carry Falls Reservoir to designated sites only.
- Promulgate a new regulation under 6NYCRR § 196 To prohibit the use of motorboats on the Jordan River.

V. SCHEDULE FOR IMPLEMENTATION AND ESTIMATED BUDGET

The following tables outline a schedule for implementation of the proposed management actions and their estimated costs. The estimated costs of implementing these projects is based on historical costs incurred by the Department for similar projects. Values for some projects are based on projected costs for service contracting. These cost estimates do not include capital expenditures for items such as equipment, nor do they include the value of program staff salaries.

Annual Maintenance and Other Activities	Estimated Cost
Road maintenance (grading, raking and brushing) 0.3 miles @ $1500/mile	$450
Trail maintenance (brushing, blowdown removal) 4.25 miles @ $700/mile	$2,975
Maintenance of signs, register and kiosks	$1,500
Parking area maintenance $500/ea/yr	$1,000
Conduct biological, chemical and/or physical surveys of selected unit waters to assess management needs and to determine progress toward the objectives stated in this plan	5 days/year
Stock fish in unit waters consistent with Bureau of Fisheries policies and the *Programmatic Environmental Impact Statement on Fish Species Management Activities of the New York State Department of Environmental Conservation, Division of Fish and Wildlife(1980)*	2 days/year
Annual boundary line maintenance 38.4miles/year @ $500/mile	$7,680
Annual campsite and lean-to assessments Monitor use of roads utilized under reserved rights of others.	2 days/year 1 day/year
Total Annual Maintenance $/days	**$13,605** **10 days/year**

Ongoing or Unscheduled Management Actions **Many of the proposed management actions found in this plan cannot occur until such time that improved access to the unit is acquired and therefore their implementation cannot be scheduled at this time. Additionally, some proposals are ongoing throughout the life of the plan and cannot be scheduled for a specific year.**	**Estimated Cost**
Monitoring for the occurrence of Threatened or Endangered species	3 staff day(s)
Monitoring for invasive species on the unit.	3 staff day(s)
Acquisition of parcels identified in the OSP from willing sellers	5 staff day(s)
Control known infestations of invasive species.	3 staff day(s)
Promote educational efforts to protect spruce grouse.	1 staff day(s)
Remove occupancies as they are discovered	3 staff day(s)
Prepare project work plans for construction or maintenance projects.	10 staff day(s)
Assess and designate, if appropriate, any new trail for mountain bike use.	1 staff day(s)
Inventory, map and monitor soil conditions affected by recreational use.	1 staff day(s)
Negotiate agreements with adjoining landowners for canoe carries along the Raquette River where necessary.	2 staff day(s)
Designate canoe carries along the Raquette River.	1 staff day
Total ongoing or unscheduled management actions	**33 staff day(s)**

Year 1	Estimated Cost
Develop LAC indicators for vegetation in riparian areas.	2 staff day(s)
Develop LAC indicators and standards for soil erosion.	2 staff day(s)
Negotiate boundary line agreements with Lassiter and Brookfield Power.	3 staff day(s)
Designate a unit manager for the unit.	1 staff day(s)
Assess the Raquette River corridor and mark suitable portages where needed.	2 staff day(s)
Designate the Bear Brook Trail as a hiking trail	1 staff day(s)
Designate the Carry Falls Trail as a hiking trail.	1 staff day(s)
Install rock barriers on the Carry Falls Trail, Bear Brook Trail and Jordan River canoe carry to prevent illegal motor vehicle use.	$1,500
Promulgate new proposed regulations.	3 staff day(s)
Close the Bear Brook Trail to snowmobiles	1 staff day
Open the Potter Brook Road to mountain biking.	1 staff day
Close, by signing, the Lassiter Main Haul Road south of the Jordan River Bridge to mountain biking.	1 staff day
Total	**$1,500/18 staff day(s)**

Year 2	Estimated Cost
Develop LAC indicators and standards for trails.	3 staff day(s)
Assess all trail for problem areas.	3 staff day(s)
Pursue an agreement with private landowner for a trail to Jamestown Falls.	2 staff day(s)
Designate the trail at Jamestown Falls.	1 staff day(s)
Negotiate an agreement with IP for a canoe carry above Moody Falls to Route 56.	2 staff day(s)
Designate primitive tent sites along Carry Falls Reservoir.	3 staff day(s)
Designate primitive tent sites along the Raquette River Corridor.	3 staff day(s)
Install pit privies at all designated tent sites.	$5,000
Designate and construct an accessible tent site and access route along Carry Falls Reservoir.	$2,500
Install a unit ID sign at the intersection of Hollywood Road and Route 56.	$500.
Install a unit ID sign along Route 3 near Dead Creek.	$500.
Total	**$8,500/17 staff day(s)**

Year 3	Estimated Cost
Develop LAC indicators and standards for vegetation in camping areas.	3 staff day(s)
Close the canoe carry from Rt 56 to below Moody Falls if a new carry is constructed on IP.	1 staff day(s)
Install trail registers on the Carry Falls Trail and Bear Brook Trail.	$750.
Develop a method for collecting use data across the unit.	3 staff day(s)
Develop an education and information program for the unit.	3 staff day(s)

Year 3	Estimated Cost
Total	**$750/10 staff day(s)**

Year 4	Estimated Cost
Barricade road south of Lassiter fee lands	$500
Total	**$500**

Year 5	Estimated Cost
Assess all designated tent sites to determine any impacts associated with use.	3 staff days
Total	**3 staff days**

Some of the management actions proposed in Section IV are either ongoing processes or their scheduling is dependent upon the completion of other actions first. These proposed actions will be completed during this five year plan, however, their scheduling will be the responsibility of the unit manager.

VI: STATE ENVIRONMENTAL QUALITY REVIEW ACT

14-12-7 (2/87)-9c **SEQR**

617.20

State Environmental Quality Review
NEGATIVE DECLARATION
Notice of Determination of Non-Significance

Identifying # 2006-FPM-6-62

Project Number _____ **Date Novermber 16, 2006**

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The NYS Department of Environmental Conservation as lead agency, has determined that the proposed action described below will not have a significant effect on the environment and a Draft Environmental Impact Statement will not be prepared.

Name of Action:
Adirondack Park Agency (APA) Compliance Determination and Department of Environmental Conservation (DEC) Adoption of the Raquette Boreal Unit Management Plan

SEQR Status: Type 1 __X____
Unlisted _____

Conditioned Negative Declaration: _____ Yes
__X___ No

Description of Action:

The Raquette Boreal Unit Management Plan, sets forth the proposed goals, objectives, management actions and costs for the management of 14,993 acres of Forest Preserve lands and 34,127 acres of conservation easement lands. The plan will detail all proposed management activities for a 5 year period, dating from the time of approval and adoption. A review and update will occur every five years.

The primary goal of management for Forest Preserve lands will be to protect the natural resources and character of

the area and to provide a variety of compatible outdoor recreational activities. These activities must be consistent with the Adirondack Park State Land Master Plan and Department policies and must not degrade the natural resources of the area.

The primary goal for conservation easement lands will be to provide for public recreation which is compatible with the natural resources in cooperation with landowners goals and objectives for the property.

SEQR Negative Declaration Page 2

Management actions proposed in the plan include: construction of one six-car parking area and modification of an existing parking area to make it accessible, designation of existing trails and roads for use by mountain bikes, designation of existing trails for hiking, designation of primitive tent sites, designate and construct an accessible tent site including an access route and accessible pit privy and fire ring, fishery management activities, installation of informational signs and trail registers, modification of an existing water access site to make it accessible, promulgation of regulations prohibiting the use of motor boats on the Jordan River and limiting camping to designated tent sites.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.) The Raquette Boreal Unit is located in the Towns of Colton, Piercefield and Hopkinton in St. Lawrence County, New York

Reasons Supporting This Determination:
(See 617.7(c) for requirements of this determination; see 617.7(d) for Conditioned Negative Declaration)

A full Environmental Assessment Form has been completed. It has been determined that no proposed action will have an adverse environmental impact. All management activities will comply with the Adirondack Park State Land Master Plan, Department Policies, the Environmental Conservation Law, Rules and Regulations, and Guidelines and will be consistent with

Article XIV of the New York State Constitution.

All construction projects will follow the NYSDEC Operations Handbook as well as incorporate the use of Best Management Practices, including but not limited to the following:

1. Locating improvements to minimize necessary cut and fill;
2. Locating improvements away from streams, wetlands, and unstable slopes;
3. Use of proper drainage devices such as water bars and broad-based dips;
4. Locating trails to minimize grade;
5. Using stream crossings with low, stable banks, firm stream bottom and gentle approach slopes;
6. Constructing stream crossings at right angles to the stream;
7. Limiting stream crossing construction to periods of low or normal flow;
8. Limiting construction to periods of low or normal rainfall;
9. Limiting the size of the parking area to the minimum necessary to address the intended use;
10. Avoiding areas where habitats of threatened and endangered species are known to exist;
11. Using natural materials, to the greatest extent possible, to blend the structure into the natural surroundings

12. Wherever possible, lay out trails on existing old roads or clear or partially cleared areas;
13. **Mountain Bike Trails:**
14. Look for and identify control points (e.g. wetlands, rocks, outcrops, scenic vistas);
15. Avoid sensitive areas; wetlands and wherever water collects. Keep trails below 2,500 feet;
16. Use existing roadways where possible that do not exceed grades of 10%;
17. Clear new trails to a maximum width of 4 feet to establish a single track route;
18. Keep tread width less than 18" along a rolling grade;

- 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;
- Minimize cuts and fills as much as possible on side slopes, following the contour, cut full benches to

construct the tread. Out sloping in this manner helps to remove water from the trail. Vegetate back slopes;

- Build flow into the trail with open and flowing designs with broad sweeping turns;
- Streams should be crossed at 90 degree angles preferably across rock or gravel;
- Bridges may be used where steep banks prevent normal stream crossings;
- Do not construct skid berms or extensive banked turns that may accelerate erosion;
- Avoid acute, sharp angle turns;
- 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 annually. Address water problems immediately.

Any tree cutting will conform to the Commissioner's Delegation Memorandum on Tree Cutting in the Forest Preserve, #84-06 and LF-91-2 Policy on Cutting, Removal or Destruction of Trees on Forest Preserve Lands.

Trails may be closed during wet seasons to protect natural resources from degradation if no other action can prevent damage.
Impacts for specific projects are minimal. They are described below:

The parking areas proposed in this plan will utilize an existing open area to minimize vegetative disturbance. Minor graveling and leveling may be necessary to provide proper drainage of parking areas.

The installation of signs and trail registers will occur within parking areas or along road shoulders. No new disturbance will be required for their installation therefore no impacts will occur.

SEQR Negative Declaration **Page 4**

Primitive tent sites will be designated in areas where impacts to vegetation, soils and water will be minimized. Flat areas will be used as much as possible to minimize any erosion. Pit privies will be located away from any water bodies. There may be some minor disturbance to a newly constructed site. These areas will be mulched and re-seeded as needed.

Any fishery management activities will be covered by the following environmental impact statements:

Fish stocking projects will be 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 December 1979.

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 Division of Fish, Wildlife and Marine Resources liming policy.

Pond reclamation projects will be in compliance with the "Programmatic Environmental Impact Statement on Fish Species Management Activities of the Department of Environmental Conservation" and "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 Pesticide Management."

Proposed new regulations are to afford protection to natural resources and the primitive character of the area.

No historic or archeological sites are known to exist near any proposed sites.

If Conditioned Negative Declaration, provide on attachment the specific mitigation measures imposed.

For Further Information:

Contact Person: David Smith
Address: NYSDEC
317 Washington St.
Watertown, NY 13601
Telephone Number:(315) 785-2238

For Type 1 Actions and Conditioned Negative Declarations, a Copy of this Notice Sent to:

- Appropriate Regional Office of the Department of Environmental Conservation
- Chief Executive Officer, Town/City/Village of Applicant (if any)
- Other involved agencies (if any)
- Environmental Notice Bulletin, NYSDEC,625 Broadway,Albany, NY 12233-1750 (Type I Actions Only)

VII. APPENDICES

Appendix 1 - APSLMP Primitive and Wild Forest Guidelines
Appendix 2 - Definitions
Appendix 3 - Mammals, Reptiles, Birds and Amphibians
Appendix 4 - Ponded Water Inventory
Appendix 5 - Trail Classifications
Appendix 6 - Best Management Practices for State Lands-Invasive Species
Appendix 7 - Mountain Bike Trail Standards and Guidelines
Appendix 8 - Draft Comprehensive Snowmobile Trail Briefing Document
Appendix 9 - Bibliography and References
Appendix 10 - Easement terms
Appendix 11 - Response to Public Comments
Appendix 12 - Unit Maps

APPENDIX 1

PRIMITIVE AREAS: GUIDELINES FOR MANAGEMENT AND USE
WILD FOREST AREAS: GUIDELINES FOR MANAGEMENT AND USE (APSLMP)

Primitive Areas: Guidelines for Management and Use

Basic guidelines

1. The primary primitive management guideline will be to achieve and maintain in each designated primitive area a condition as close to wilderness as possible, so as to perpetuate a natural plant and animal community where man's influence is relatively unapparent.
2. In primitive areas:
   - (a) No additions or expansions of non-conforming uses will be permitted.
   - (b) Any remaining non-conforming uses that were to have been removed by the original December 31, 1975 deadline but have not been removed will be removed by March 31, l987.
   - (c) Those non-conforming uses of essentially a permanent nature whose removal, though anticipated, cannot be provided for by a fixed deadline will be phased out on a reasonable timetable as soon as their removal becomes feasible.
   - (d) Non-conforming uses resulting from newly classified primitive areas will be removed as rapidly as possible, except for those described in c above, and in any case by the end of the third year following classification.
   - (e) Primitive tent sites that do not conform to the separation distance guidelines will be brought into compliance on a phased basis and in any case by the third year following adoption of the unit management plan for the area.
3. Effective immediately, no new, non-conforming uses will be permitted in any primitive area.
4. Upon the removal of all nonconforming uses, a designated primitive area that otherwise meets wilderness standards will be reclassified as wilderness.
5. Construction of additional conforming structures and maintenance of existing facilities and improvements will follow the guidelines for wilderness areas.
6. No new structures or improvements in primitive areas will be constructed except in conformity with finally adopted unit management plans. This guideline will not prevent ordinary maintenance rehabilitation or minor relocation of conforming structures or improvements or the removal of nonconforming uses.
7. All conforming structures and improvements will be located so as to blend with the surrounding environment and to require only minimal maintenance.
8. All management and administrative actions and interior facilities in primitive areas will be designed to emphasize the self-sufficiency of the user to assume a high degree of responsibility for environmentally sound use of such areas and for his or her own health, safety and welfare.
9. Any new, reconstructed or relocated lean-tos or individual primitive tent sites located on shorelines of lakes, ponds, rivers or major streams will be

located so as to be reasonably screened from the water body to avoid intruding on the natural character of the shoreline and public enjoyment and use thereof. Any such lean-tos ill be set back a minimum of 100 feet from the mean high water mark of lakes, ponds, rivers or major streams.

10. All pit privies will be located a minimum of 150 feet from the mean high water mark of any lake, pond, river, stream or wetland.

Structures and improvements

1. All structures and improvements that conform to wilderness guidelines will be acceptable in primitive areas.
2. In addition, existing structures and improvements
   (a) whose removal, though anticipated, cannot be provided for by a fixed deadline, or,
   (b) in the case of areas not destined to become wilderness, whose retention is compatible with the character of the area and whose removal is not essential to protect the resource, will also be permissible, in each case as specified in a duly adopted unit management plan.
3. Non-conforming uses, other than those that meet the criteria in section 2 above, will be removed by no later than March 31, l987.

Ranger stations

Ranger stations will be subject to the same guidelines as in wilderness areas, except that in areas not destined to become wilderness or in other special situations the indefinite retention of such stations may be provided for as specified by the Department of Environmental Conservation in a duly adopted unit management plan.

Motor vehicles, motorized equipment and aircraft

1. All uses of motor vehicles, motorized equipment and aircraft permitted under wilderness guidelines will also be permitted in primitive areas.
2. Addition, the use of motor vehicles, motorized equipment and aircraft by administrative personnel will be permitted to reach and maintain existing structures, improvements or ranger stations:
   (a) whose eventual removal is anticipated but cannot be removed by a fixed deadline; or,
   (b) in primitive areas not destined to become wilderness whose presence is of an essentially permanent character; in each case as specified in a duly adopted unit management plan.

Roads, snowmobile trails and state truck trails

1. The guidelines specified for wilderness areas will also apply to primitive areas, except that:
   (a) continued use of existing roads, snowmobile trails and state truck trails by administrative personnel will be permitted, to the extent necessary to reach and maintain structures and improvements whose removal, though anticipated, cannot be effected by a fixed deadline or, in the case of primitive areas not destined to become

wilderness, whose presence is of an essentially permanent character; and,

(b) existing roads now legally open to the public may remain open for motor vehicles at the discretion of the Department of Environmental Conservation pending eventual wilderness classification, if their continued use will not adversely affect the character of the resources of the primitive area or impinge upon the proper management of an adjacent wilderness area;

(c) existing snowmobile trails now legally open to the public may remain open for snowmobiles at the discretion of the Department of Environmental Conservation pending eventual wilderness classification if their continued use will not adversely affect the character or resources of the primitive area or impinge upon the proper management of the adjacent wilderness; in each case as specified in a duly adopted unit management plan.

2. Upon the closure of any road, snowmobile trail or state truck trail, such routes will be effectively blocked as provided in the wilderness guidelines.

All Terrain Bicycles

The same guidelines will apply as in wilderness areas except that all terrain bicycles may be used on existing roads legally open to the public and on state truck trails specifically designated for such use by the Department of Environmental Conservation as specified in individual unit management plans.

Flora and fauna

The same guidelines will apply as in wilderness areas.

Recreational use and overuse

The same guidelines will apply as in wilderness areas.

Boundary structures and improvements and boundary marking

The same guidelines will apply as in wilderness areas.

Wild Forest Areas: Guidelines for Management and Use

Basic Guidelines

1. The primary wild forest 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.
2. In wild forest areas
   - I. No additions or expansions of non-conforming uses will be permitted.
   - II. Any remaining non-conforming uses that were to have been removed by the December 31, 1975 deadline but have not yet been removed will be removed by March 31, 1987.
   - III. Non-conforming uses resulting from newly classified wild forest areas will be removed as rapidly as possible and in any case by the end of the third year following classification.
   - IV. Primitive tent sites that do not conform to the separation distance guidelines will be brought into compliance on a phased basis and

in any case by the third year following adoption of the unit management plan for the area.

3. Effective immediately, no new non-conforming uses will be permitted in any designated wild forest area.
4. Public use of motor vehicles will not be encouraged and there will not be any material increase in the milage 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.
5. Care should be taken to designate separate areas for incompatible uses such as snowmobiling and ski touring or horseback riding and hiking.
6. When public access to and enjoyment of the wild forest areas are inadequate, appropriate measures may be undertaken to provide improved access to encourage public use consistent with the wild forest character.
7. No new structures or improvements will be constructed except in conformity with a finally adopted unit management plan. This guideline will not prevent ordinary maintenance, rehabilitation or minor maintenance of conforming structures or improvements, or the removal of non-conforming uses.
8. All conforming structures and improvements will be designed and located so as to blend with the surrounding environment and to require only minimal maintenance.
9. All management and administrative actions and interior facilities in wild forest areas will be designed to emphasize the self-sufficiency of the user to assume a high degree of responsibility for environmentally sound use of such areas and for his or her own health, safety and welfare.
10. Any new, reconstructed or relocated lean-tos, primitive tent sites and other conforming buildings and structures located on shorelines of lakes, ponds, rivers or major streams, other than docks, fishing and waterway access sites and similar water-related facilities, will be located so as to be reasonably screened from the water body to avoid intruding on the natural character of the shoreline and the public enjoyment thereof. Any such 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 and major streams.
11. All pit privies, seepage pits or leach fields will be located a minimum of 150 feet from any lake, pond, river or stream.

Structures and Improvements

1. All structures and improvements permitted under the guidelines covering wilderness areas will be allowed in wild forest areas. In addition, the structures and improvements listed below will be allowed and their maintenance, rehabilitation and construction permitted:
   - small groupings of primitive tent sites below 3,500 feet in elevation, subject to the guidelines set forth below;
   - nature and interpretive trails;
   - trailheads adjacent to public highways;

- stream improvement structures for fishery management purposes;
- fishing and waterway access sites adjacent to public highways and complying with the criteria set forth below;
- horse trails; and,
- picnic tables.

The maintenance and rehabilitation of the following structures and improvements will be allowed 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:

- horse barns;
- small scale dams, constructed of natural materials wherever possible;
- small fireplaces in fire sensitive areas;
- storage sheds and similar rustic buildings for use of administrative personnel;
- small-scale electronic communication and relay facilities for official communications;
- telephone and electrical lines to service permitted administrative structures;
- buoys;
- small-scale water supply facilities under permit from the Department of Environmental Conservation;
- ranger stations as set forth below;
- roads, and state truck trails as set forth below;
- snowmobile trails as set forth below;
- fire towers and observers cabins as set forth below;
- wildlife management structures.

Ranger stations

Existing ranger stations may be retained and new ranger stations constructed, but only where absolutely essential for administration of the area, no feasible alternative exists, and no deterioration of the wild forest character or natural resource quality of the area will result.

Motor vehicles, motorized equipment and aircraft

1. All uses of motor vehicles, motorized equipment and aircraft permitted under wilderness guidelines will also be permitted in wild forest areas.
2. In addition, the use of motor vehicles, snowmobiles, motorized equipment and aircraft will be allowed as follows:

   a)- by administrative personnel where necessary to reach, maintain and construct permitted structures and improvements, for appropriate law enforcement and general supervision of public use, or for appropriate purposes, including research, to preserve and enhance the fish and wildlife or other natural resources of the area;

b)- by the general public, subject to basic guideline 4 set forth above, but only on:
- existing public roads;
- Department of Environmental Conservation roads now or hereafter designated as open for public use by motor vehicles by the department of Environmental Conservation; and
- on rivers, lakes and ponds now or hereafter designated by the Department of Environmental Conservation as suitable for such motorized uses; and,

c) by snowmobiles on snowmobile trails now or hereafter designated by the Department of Environmental Conservation in accordance with basic guideline 4 set forth above, and with special guidelines for such trails specified below.

d) by all terrain vehicles but only on existing public roads or Department of Environmental Conservation roads open to such vehicles, as specified in (b) above.

3. The Department of Environmental Conservation may restrict, under existing law and pursuant to authority provided in this master plan, the use of motor vehicles, motorized equipment and aircraft by the public or administrative personnel where in its judgement the character of the natural resources in a particular area or other factors make such restrictions desirable.

Roads, jeep trails and state truck trails

1. Continued use of existing roads, snowmobile trails and state truck trails by administrative personnel in wild forest areas will be permitted, to the extent necessary, to reach, maintain and construct permitted structures and improvements.
2. Existing roads or snowmobile trails, now open to and used by the public for motor vehicle use in wild forest areas, may continue to be so used at the discretion of the Department of Environmental Conservation, provided such use is compatible with the wild forest character of an area.
3. Established roads or snowmobile trails in newly-acquired state lands classified as wild forest may be kept open to the public, subject to basic guideline 4 set forth above and in the case of snowmobile trails to the special guidelines for such trails set forth below, at the discretion of the Department of Environmental Conservation, provided such use is compatible with the wild forest character of the area.
4. No new roads will be constructed in wild forest areas nor will new state truck trails be constructed unless such construction is absolutely essential to the protection or administration of an area, no feasible alternative exists and no deterioration of the wild forest character or natural resource quality of the area will result.

Snowmobile trails

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 milage of snowmobile trails lost in the designation of wilderness, primitive or canoe areas may be replaced in wild forest areas with existing roads or abandoned woods roads as the 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 te Park to facilitate snowmobile access between communities where alternate routes on either state or private land are not available and 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.

All terrain bicycles

All terrain bicycles may be permitted, in the discretion of the Department of Environmental Conservation, on roads legally open to the public and on state truck trails, foot trails, snowmobile trails and horse trails deemed suitable for such use as specified in individual unit management plans.

Fire towers

The educational and informational aspects of certain fire towers should be encouraged and wherever feasible these fire towers should be retained where consistent with their need from a fire control and communications standpoint.

Tent platforms

The Department of Environmental Conservation having removed all tent platforms previously existing under Department permit, erection of new tent platforms will be prohibited.

Small groupings of primitive tent sites designed to accommodate a maximum of 20 people per grouping under group camping conditions may be provided at carefully selected locations in wild forest areas, even

though each individual site may be within sight or sound and less than approximately one-quarter mile from any other site within such grouping, subject to the following criteria:
-such groupings will only be established or maintained on a site specific basis in conformity with a duly adopted unit management plan for the wild forest area in question;
- such groupings will be widely dispersed (generally a mile apart) and located in a manner that will blend with the surrounding environment and have a minimum impact on the wild forest character and natural resource quality of the area;
- all new, reconstructed or relocated tent sites in such groupings will be set back a minimum of 100 feet from the mean high water mark of lakes, ponds, rivers and major streams and will be located so as to be reasonably screened from the water body to avoid intruding on the natural character of the shoreline and the public enjoyment and use thereof.

Fishing and waterway access sites

Fishing and waterway access sites may be provided on any body of water irrespective of its size where the current or projected need for access clearly warrants such a site. Such sites will comply with the following management guidelines:
- Adequate public hand launching facilities or private facilities open to the public are not available to meet a demonstrated need
- The physical, biological and social carrying capacity of the water body or other water bodies accessible from the site will not be exceeded.
- The site and attendant water uses will be compatible with the state and private land use classifications and attendant guidelines and land use controls surrounding the water body.
- The site will be located in a manner to avoid adverse impact on adjacent or nearby state and private lands.
- Motor size limitations or the prohibition of motorized use as appropriate to the carrying capacity of the water body are provided for.
- There will be no adverse impacts on the physical, biological or scenic resources of the water body and surrounding land.
- any proposal to create a new fishing or waterway access site will be accompanied by an adequate demonstration that the above guidelines can be complied with.

Flora and fauna

The same guidelines will apply as in wilderness areas, although exceptions may be made by the Department of Environmental Conservation in accordance with sound biological management practices, particularly where such practices will improve the wildlife resources.

Recreational use and overuse

1. All types of recreational uses considered appropriate for wilderness areas are compatible with wild forest and, in addition, snowmobiling, motorboating and travel by jeep or other motor vehicles on a limited and regulated basis that will not materially increase motorized uses that conformed to the Master Plan at the time of its adoption in 1972 and will not adversely affect the essentially wild character of the land are permitted.
2. Certain wild forest areas offer better opportunities for a more extensive horse trail system than in wilderness, primitive or canoe areas and horse trails and associated facilities in these areas should be provided where appropriate.
3. Although the nature of most wild forest areas indicates that potential recreational overuse will not be as serious as in wilderness, primitive or 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.

Designation of Wild Forest Areas

The application of the wild forest definition and criteria described above results in the current designation under the master plan of about 1.2 million acres of wild forest land, comprising approximately 53 percent of the forest preserve within the Adirondack Park. A wide variety of terrain and ecosystems is represented in these areas.

All wild forest areas are identified and their boundaries delineated on the map forming part of this master plan.

Chapter III contains a general description of 17 wild forest areas in the Park.

APPENDIX 2

Definitions and Acronyms

Acronyms

ADA	American with Disabilities Act
ADAAG	American with Disabilities Act Accessibility Guidelines
ADK	Adirondack Mountain Club
AFR	Assistant Forest Ranger
ALSC	Adirondack Lakes Survey Corporation
ANC	Acid neutralizing capacity
APA	Adirondack Park Agency
APLUDP	Adirondack Park Land Use Development Plan
APSLMP	Adirondack Park State Land Master Plan
ARTC	Adirondack Regional Tourism Council
ATV	All Terrain Vehicle
BCA	Bird Conservation Area
BP	Before Present
CAC	Citizens' Advisory Committee
CP-3	Commissioner Policy #3- Motor Vehicle Access to State lands under the Jurisdiction of DEC for People with Disabilities
DEC	New York State Department of Environmental Conservation
DMU	Deer Management Unit
DOC	New York State Department of Corrections
DOT	New York State Department of Transportation
ECL	Environmental Conservation Law
EIS	Environmental Impact Statement
EPA	Environmental Protection Act of 1993
EQBA	Environmental Quality Bond Act
FAA	Federal Aviation Administration
FR	Forest Ranger
IP	International Paper
LAC	Limits of Acceptable Change
MOU	Memorandum of Understanding
NBWI	Native-But-Widely-Introduced
NHPC	Natural Heritage Plant Community
NPS	National Park Service
NYCRR	New York Code of Rules and Regulations
NYS	New York State
NYSDOT	New York State Department of Transportation
OPRHP	Office of Parks, Recreation and Historical Preservation
OSP	Open Space Plan
RBU	Raquette Boreal Unit
RJBPA	Raquette-Jordan Boreal Primitive Area
ROW	Right of Way
SEQRA	State Environmental Quality Review Act

SH	State Highway
SUNY-ESF	State University of New York College of Environmental Science & Forestry
TRP	Temporary Revocable Permit
TNC	The Nature Conservancy
UFAS	Uniform Accessibility Standards
USGS	United States Geologic Survey
UMP	Unit Management Plan
USFS	United States Forest Service
WMU	Wildlife Management Unit

Definitions

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.

Coldwater Ponds and Lakes - Lakes and ponds which support and are managed for populations of several salmonids. These waters generally 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.

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 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.

Reclamation - A management technique involving the application of a fish toxicant called rotenone to eliminate nonnative and/or competing fishes. Upon detoxification these waters are generally restocked with brook trout and or rainbow trout.

APPENDIX 3

Mammals, Reptiles, Birds and Amphibians

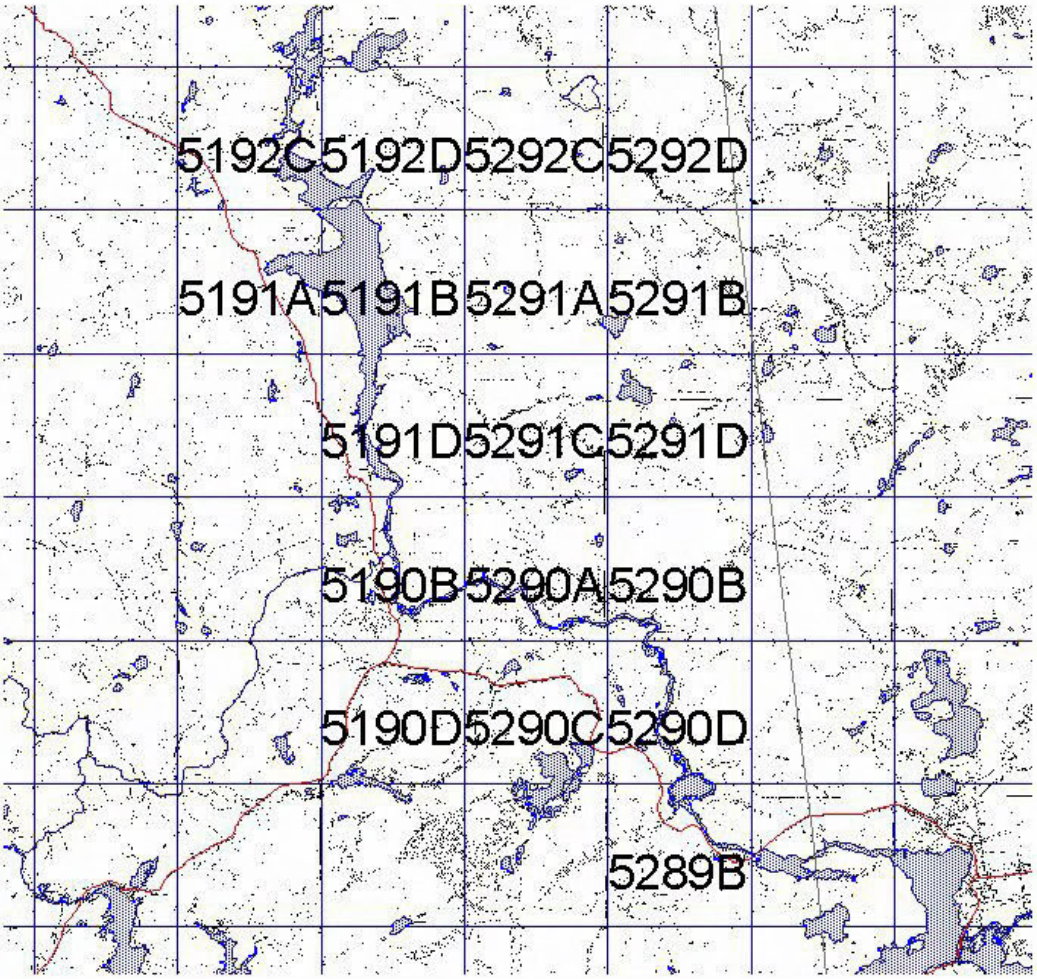
MAMMALS	Scientific Name	Status		
White Tailed Deer	Odocoileus virgininanus	P	G	R
Black Bear	Ursus americanus	P	G	R
Moose	Alces alces	P	G	Tr
Eastern Coyote	Canis latrans	P	G	R
Bobcat	Lynx rufus	P	G	R
Beaver	Castor canadeni	P	G	R
Muskrat	Ondatra zibethica	P	G	R
Fisher	Martes pennanti	P	G	R
River Otter	Lutra candensis	P	G	R
Mink	Mustela vison	P	G	R
Raccoon	Procyon lotor	P	G	R
Red Fox	Vulpes vulpes	P	G	R
Gray Fox	Urocyon cinereoargentus	P	G	Oc
Ermine	Mustela erminea	P	G	Oc
Long-tailed Weasel	Mustela frenata	P	G	Oc
Striped Skunk	Mephitis mephitis	P	G	Oc
Virginia Opossum	Didelphis virginiana	P	G	Oc
Marten	Martes americana	P	G	Oc
Varying Hare	Lepus americanus	P	G	R
Woodchuck	Mamota monax	Un	Un	Oc
Porcupine	Erethizon dorsatum	Un	Un	R
Chipmunk	Tamias striatus	Un	Un	R
Red Squirrel	Tamiasciurus	Un	Un	R
Nn. Flying Squirrel	Glaucomys sabrinus	Un	Un	R
Masked Shrew	Sorex cinereus	Un	Un	R
Water Shrew	Sorex palustris	Un	Un	R
Smokey Shrew	Sorex fumeus	Un	Un	R
Pigmy Shrew	Sorex hoyi	Un	Un	R
Short-tailed Shrew	Sorex brevicauda	Un	Un	R
Hairy-tailed Mole	Parascalops breweri	Un	Un	R
Little Brown Bat	Myotis lucifigus	Un	Un	R
Deer Mouse	Peromyscus maniculatus	Un	Un	R
White-footed Mouse	Peromyscus leucopus	Un	Un	R
Sn. Red-backed Vole	Clethrionomys gapperi	Un	Un	R
Meadow Vole	Micotus pennsylvanicus	Un	Un	R
Rock Vole	Micotus chrotorrhinus	Un	Un	R
Sn. Bog Lemming	Synaptomys cooperi	Un	Un	R
Nn. Bog Lemming	Synaptomys borealis	Un	Un	R
Meadow Jumping Mouse	Zapus hudsonius	Un	Un	R
Woodland Jumping Mouse	Napaeozapus insignis	Un	Un	R

Un = Unprotected G = Game R = Resident Tr = Transient Oc = Occasional
P = Protected

RAQUETTE BOREAL FOREST
NYS AMPHIBIAN AND REPTILE ATLAS PROJECT
1990-1998 DATA

Jefferson Salamander Complex	Ambystoma jeffersonianum x laterale
Spotted Salamander	Ambystoma maculatum
Red-spotted Newt	Notophthalmus v. viridescens
Northern Dusky Salamander	Desmognathus fuscus
Northern Redback Salamander	Plethodon cinereus
Northern Two-lined Salamander	Eurycea bislineata
Eastern American Toad	Bufo a. americanus
Northern Spring Peeper	Pseudacris c. crucifer
Bullfrog	Rana catesbeiana
Green Frog	Rana clamitans melanota
Mink Frog	Rana septentrionalis
Northern Leopard Frog	Rana pipiens
Pickerel Frog	Rana palustris
Common Snapping Turtle	Chelydra s. serpentina
Common Garter Snake	Thamnophis sirtalis
Northern Ringneck Snake	Diadophis punctatus edwardsii
Wood Frog	Rana sylvatica
Gray Tree Frog	Hyla versicolor
Smooth Green Snake	Liochlorophis vernalis

Raquette Boreal Forest
Breeding Bird Atlas Key



NEW YORK STATE BREEDING BIRD ATLAS
BREEDING SPECIES OF THE RAQUETTE BOREAL FOREST
1980- 1985 alphabetical order by Common Name

Common Name	Scientific Name	Confirmed	Probable	Possible	Total
Alder Flycatcher	Empidonax alnorum	1	2	10	13
American Bittern	Botaurus lentiginosus	0	1	1	2
American Black Duck	Anas rubripes	2	0	2	4
American Crow	Corvus brachyrhynchos	5	1	10	16
American Goldfinch	Carduelis tristis	1	1	8	10
American Kestrel	Falco sparverius	0	1	2	3
American Redstart	Setophaga ruticilla	3	6	6	15
American Robin	Turdus migratorius	9	2	6	17
American Woodcock	Scolopax minor	2	1	2	5
Bald Eagle	Haliaeetus leucocephalus	0	0	1	1
Bank Swallow	Riparia riparia	3	0	3	6
Barn Swallow	Hirundo rustica	5	0	5	10
Barred Owl	Strix varia	0	3	4	7
Belted Kingfisher	Ceryle alcyon	3	3	6	12
Black-and-white Warbler	Mniotilta varia	0	4	7	11
Black-backed Woodpecker	Picoides arcticus	1	1	4	6
Black-billed Cuckoo	Coccyzus erythropthalmus	0	0	2	2
Blackburnian Warbler	Dendroica fusca	2	5	9	16
Black-capped Chickadee	Parus atricapillus	7	1	10	18
Black-throated Blue Warbler	Dendroica caerulescens	7	3	5	15
Black-throated Green Warbler	Dendroica virens	2	8	7	17
Blue Jay	Cyanocitta cristata	6	1	11	18
Boreal Chickadee	Parus hudsonicus	1	0	6	7
Broad-winged Hawk	Buteo platypterus	1	0	9	10
Brown Creeper	Certhia americana	2	0	9	11
Brown Thrasher	Toxostoma rufum	0	0	1	1
Brown-headed Cowbird	Molothrus ater	0	2	6	8
Canada Warbler	Wilsonia canadensis	1	3	6	10
Cape May Warbler	Dendroica tigrina	0	1	2	3
Cedar Waxwing	Bombycilla cedrorum	3	7	7	17
Cerulean Warbler	Dendroica cerulea	0	0	2	2
Chestnut-sided Warbler	Dendroica pensylvanica	6	6	5	17
Chimney Swift	Chaetura pelagica	0	2	10	12
Chipping Sparrow	Spizella passerina	5	3	6	14
Cliff Swallow	Hirundo pyrrhonota	2	0		2
Common Grackle	Quiscalus quiscula	6	3	7	16
Common Loon	Gavia immer	4	0	4	8
Common Merganser	Mergus merganser	3	0	5	8

Common Name	Scientific Name	Confirmed	Probable	Possible	Total
Common Raven	Corvus corax	0	0	6	6
Common Snipe	Gallinago gallinago	0	1	1	2
Common Yellowthroat	Geothlypis trichas	5	10	3	18
Dark-eyed Junco	Junco hyemalis	9	2	7	18
Downy Woodpecker	Picoides pubescens	2	2	9	13
Eastern Bluebird	Sialia sialis	0	0	4	4
Eastern Kingbird	Tyrannus tyrannus	2	0	7	9
Eastern Meadowlark	Sturnella magna	0	0	1	1
Eastern Phoebe	Sayornis phoebe	2	0	3	5
Eastern Wood-Pewee	Contopus virens	1	3	8	12
European Starling	Sturnus vulgaris	2	0	1	3
Evening Grosbeak	Coccothraustes vespertinus	2	1	2	5
Field Sparrow	Spizella pusilla	0	0	3	3
Gadwall	Anas strepera	0	0	1	1
Golden-crowned Kinglet	Regulus satrapa	1	3	7	11
Gray Catbird	Dumetella carolinensis	1	2	8	11
Gray Jay	Perisoreus canadensis	1	1	5	7
Great Blue Heron	Ardea herodias	1	0	9	10
Great Crested Flycatcher	Myiarchus crinitus	3	1	8	12
Great Horned Owl	Bubo virginianus	0	0	1	1
Green-backed Heron	Butorides striatus	0	0	1	1
Hairy Woodpecker	Picoides villosus	4	1	9	14
Hermit Thrush	Catharus guttatus	3	8	6	17
Herring Gull	Larus argentatus	0	0	2	2
Hooded Merganser	Lophodytes cucullatus	0	0	3	3
House Sparrow	Passer domesticus	1	0	2	3
House Wren	Troglodytes aedon	0	0	2	2
Indigo Bunting	Passerina cyanea	1	5	7	13
Killdeer	Charadrius vociferus	1	0	2	3
Least Flycatcher	Empidonax minimus	1	6	6	13
Lincoln's Sparrow	Melospiza lincolnii	2	0	2	4
Magnolia Warbler	Dendroica magnolia	7	3	7	17
Mallard	Anas platyrhynchos	0	0	3	3
Mourning Dove	Zenaida macroura	0	0	3	3
Mourning Warbler	Oporornis philadelphia	2	4	6	12
Nashville Warbler	Vermivora ruficapilla	2	5	7	14
Northern Cardinal	Cardinalis cardinalis	0	1		1
Northern Flicker	Colaptes auratus	3	2	10	15
Northern Goshawk	Accipiter gentilis	3	1	3	7
Northern Oriole	Icterus galbula	1	1	2	4
Northern Parula	Parula americana	0	2	5	7

Common Name	Scientific Name	Confirmed	Probable	Possible	Total
Northern Rough-winged Swallow	Stelgidopteryx serripennis	1	0	1	2
Northern Waterthrush	Seiurus noveboracensis	0	0	6	6
Olive-sided Flycatcher	Contopus borealis	0	4	7	11
Osprey	Pandion haliaetus	1	0	1	2
Ovenbird	Seiurus aurocapillus	3	4	7	14
Pileated Woodpecker	Dryocopus pileatus	1	1	14	16
Pine Siskin	Carduelis pinus	0	2	2	4
Pine Warbler	Dendroica pinus	0	2		2
Purple Finch	Carpodacus purpureus	4	6	4	14
Red-breasted Nuthatch	Sitta canadensis	6	2	8	16
Red-eyed Vireo	Vireo olivaceus	1	12	3	16
Red-tailed Hawk	Buteo jamaicensis	3	1	4	8
Red-winged Blackbird	Agelaius phoeniceus	2	6	5	13
Ring-necked Duck	Aythya collaris	0	0	1	1
Ring-necked Pheasant	Phasianus colchicus	0	0	1	1
Rock Dove	Columba livia	0	0	1	1
Rose-breasted Grosbeak	Pheucticus ludovicianus	1	4	9	14
Ruby-crowned Kinglet	Regulus calendula	0	2	4	6
Ruby-throated Hummingbird	Archilochus colubris	0	1	12	13
Ruffed Grouse	Bonasa umbellus	7	2	5	14
Rufous-sided Towhee	Pipilo erythrophthalmus	0	1	3	4
Rusty Blackbird	Euphagus carolinus	2	0	2	4
Scarlet Tanager	Piranga olivacea	2	4	7	13
Sharp-shinned Hawk	Accipiter striatus	0	0	4	4
Solitary Vireo	Vireo solitarius	2	6	9	17
Song Sparrow	Melospiza melodia	10	4	2	16
Spotted Sandpiper	Actitis macularia	0	0	8	8
Spruce Grouse	Dendragapus canadensis	3	2	1	6
Swainson's Thrush	Catharus ustulatus	2	4	5	11
Swamp Sparrow	Melospiza georgiana	4	6	3	13
Tree Swallow	Tachycineta bicolor	4	0	11	15
Turkey Vulture	Cathartes aura	0	0	7	7
Veery	Catharus fuscescens	2	4	6	12
Warbling Vireo	Vireo gilvus	0	1		1
Whip-poor-will	Caprimulgus vociferus	0	0	1	1
White-breasted Nuthatch	Sitta carolinensis	2	1	10	13
White-throated Sparrow	Zonotrichia albicollis	8	8	2	18
Winter Wren	Troglodytes troglodytes	2	3	8	13
Wood Duck	Aix sponsa	1	1	2	4
Wood Thrush	Hylocichla mustelina	1	1	10	12
Yellow Warbler	Dendroica petechia	1	2	3	6

Common Name	Scientific Name	Confirmed	Probable	Possible	Total
Yellow-bellied Flycatcher	Empidonax flaviventris	0	2	3	5
Yellow-bellied Sapsucker	Sphyrapicus varius	3	1	10	14
Yellow-billed Cuckoo	Coccyzus americanus	0	0	1	1
Yellow-rumped Warbler	Dendroica coronata	6	5	5	16
Yellow-throated Vireo	Vireo flavifrons	0	1	2	3
Total		**241**	**242**	**608**	**1091**

HISTORICAL DEER YARD CONCENTRATION AREAS
Surveyed early 1970's

Mt. Matumbla Quad
- MOM 2

Carry Falls Quad
- CAF 1
- CAF 2
- CAF 3
- CAF 4
- CAF 5

Childwold Quad
- CDW 1
- CDW 2
- CDW 4

Augerhole Falls Quad
- AHF 1
- AHF 2
- AHF 3

APPENDIX 4

Ponded Water Inventory

Raquette Boreal Forest - Ponded Water Inventory Data (All St. Lawrence County)

Name	P #	Watershed	USGS Quad (7.5')	Management Class	Area (acres)	Max depth (ft)	Mean Depth (ft)
Buck Pond	P 40	Raq.	Carry Falls Res.	Adirondack Brook Trout	20	7.9	3.9
Carry Falls Reservoir	P 35C	Raq.	Carry Falls Res.	Coolwater Impoundment	3009	49.5	17.7
Deer Pond	P 48	Raq.	Childwold	Warmwater	28	4.9	2.6
McCuen Pond	P 39	Raq.	Carry Falls Res.	Warmwater	7	3.9	2.3
Little Jordan Lake	P47	Raq.	Augerhole Falls	Adirondack Brook Trout	17	6.9	1.3
Unnamed Pond	P45	Raq.	Carry Falls Res.	Unknown	2.2	--	--
Unnamed Pond	P44	Raq.	Childwold	Unknown	0.5	--	--
Unnamed Pond	P59	Raq.	Childwold	Unknown	3.7	--	--
Unnamed Pond	P60	Raq.	Childwold	Unknown	3.2	--	--
Unnamed Pond	P5045	Raq.	Childwold	Unknown	1.5	--	--
Unnamed Pond	P5039	Raq.	Carry Falls Res.	Unknown	0.7	--	--
Unnamed Pond	P 5040	Raq.	Carry Falls Res.	Unknown	1.2	--	--
Unnamed Pond	P 5041	Raq.	Carry Falls Res.	Unknown	1.2	--	--

Raquette Boreal Forest - Ponded Water Chemical and Fisheries Data (All St. Lawrence County)

	Most Recent Chemical Survey				**Most Recent Fisheries Data**	
Name/ P#	Date/ Source	ANC (µeq/l)	pH	Conductivity (µmhos/l)	Year/ Source	Fish Species Present and No. Caught
Buck Pond p40	8/6/86 ALSC	41	5.8 2	19	1986 ALSC	Brook Trout (7); Northern Redbelly Dace (104), Golden Shiner (774), Creek Chub, White Sucker, Brown Bullhead (100), Pumpkinseed
Carry Falls Reservoir p35c	10/02 DEC	80	6.6	30	2002 DEC	Walleye, Smallmouth Bass, Northern Pike, Yellow Perch, Rock Bass, Fallfish, White Sucker, Common Shiner, Banded Killifish, Pumpkinseed, Brook Trout, Lake Whitefish, Brown Bullhead, Margined Madtom, Central Mudminnow, Golden Shiner, Tesselated Darter, Cisco, Bridle Shiner
Deer Pond p48	8/4/84 ALSC	46	6.1	22	1984 ALSC	Golden Shiner, Creek Chub, White Sucker, Brown Bullhead (254), Pumpkinseed, Central Mudminnow, Common Shiner, Yellow Perch
Little Jordan Lake P47	8/6/86 ALSC	93	5.9	--	1986 ALSC	Brook Trout (11), Golden Shiner (62), Creek Chub, Brown Bullhead (45), Pumpkinseed, Yellow Perch (121)
McCuen Pond p39	8/6/86 ALSC	-1.1	4.8	18	1986 ALSC	Brown Bullhead (80)

APPENDIX 5

Trail Classifications

TRAIL CLASSIFICATION SYSTEM -

CLASS	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
I Unmarked Route	None	Intermittently apparent, relatively undisturbed organic soil horizon	Natural obstructions present, logs and water courses	Occasional	None
II Path	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	Trail markers, sign at junction with secondary or other upper level trail	Apparent, soil compaction evident	Limited natural obstructions (logs and river fords)	Low	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.
IV Secondary	Markers, signs with basic information	Likely worn and possibly quite eroded. Rocks exposed, little or no duff remaining	Up to one year's accumulated blowdown, 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 on exceptionally steep rock faces. Tread 18"-24". Clear 4' wide, 3' High.
V Trunk or Primary 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, bridge streams (2––4 logs wide) difficult to cross during high water, priority given to stream crossings below concentrations of designated camping. Tread 18"-26", clear 6' wide, 8' high, actual turn piking limited to 2% of trail length.

VI Front Country	Heavily marked, detailed interpretive signing	Groomed	None	Very High	Extensive grooming, some paving, bark chips, handicapped accessible. This is to be implemented within 500' of wilderness boundary.
VII Horse 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: 6' minimum width with kick rails, nonnative dimensional materials preferred. Tread: 2'-4' wide, clear 8' wide, 10' high.
VIII. Ski Trail	Marked High. Special markers, sign at all junctions with hiking trails.	Duff remains. Discourage summer use	Practically none due to hazards.	High	Focus on removal of obstructions, maintenance should be low profile, tread determined by clearing 6' (Should be slightly wider at turns and steep sections. Provide drainage using native materials to protect resource.
IX. 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 feet. Tread width less than 18 inches on a rolling grade	None	Moderate	Remove vegetation at root level Texture the tread Keep trails below 2000 feet Use existing roads or trails that do not exceed 10 % Blowdown removal(annual) Trail brushing

TRAIL CLASSIFICATION SYSTEM - Snowmobile

CLASS	MARKING	TREAD	BARRIERS	USE LEVEL	ACCEPTABLE MAINTENANCE
Snowmobile Trails- Class A	Marked high	Groomed(width- 8 feet, 12 feet on corners)	None	Moderate to High	Blowdown removal(annual) Trail brushing Erosion control structures(Box culverts,etc.) Trail Hardening(corduroy) Bridges Trail Rehabilitation
Snowmobile Trails- Class B	Marked high	Groomed(width- 8 feet)	None	Low, varies by location	Blowdown removal(annual) Trail brushing Erosion control structures(Box culverts,etc.) Trail Hardening(corduroy) Bridges Trail Rehabilitation
Snowmobile Trails- Local	Marked high		None	Variable	

APPENDIX 6

Best Management Practices for State Lands-Invasive Species

BEST MANAGEMENT PRACTICES FOR STATE LANDS UNDER MANAGEMENT OF THE DEC IN THE ADIRONDACK PARK

Applicability

These Best Management Practices (BMP's) are intended for use by those applying for and implementing terrestrial invasive plant species management activities on State Lands under an Adopt-A-Natural-Resource Stewardship Agreement (ANRSA). The following document contains acceptable practices for control of the following four terrestrial invasive species: purple loosestrife *(Lythrum salicaria)*, Japanese, giant and bohemian knotweed *(Fallopia japonica* ssp. *japonica, F. sachalinensis,* and *F.* x. *bohemica)*, common reed *(Phragmites australis* ssp. *australis)*, garlic mustard *(Alliaria petiolata)*, Japanese, Morrow's, tatarian, Amur and Bell's honeysuckles *(Lonicera japonica, L. morrowii, L. tatarica, L. maackii, L.* x. *bella)*, and yellow iris *(Iris pseudacorus)*.

The following management options, should be selected with consideration for the location and size of the infestations, the age of the plants, past control methods used at the site, time of year, weather conditions and adjoining and nearby land uses.

Other management approaches not identified here may be appropriate but must be approved by the Regional Land Manager of the NYS Department of Environmental Conservation in the region where the proposed invasive plant control activity will take place in consultation with the Adirondack Park Agency's Director of Planning.

Within the Park there are several geographic and geophysical settings (at the location of the target plant(s)) that need to be considered when determining appropriate BMP's and the regulatory instruments needed prior to their implementation. These settings and relevant action are:

4. In or within 100' of a wetland on private or public lands -- requires a general permit from the Adirondack Park Agency.
5. Forest Preserve Lands – requires an ANRSA from the Department of Environmental Conservation and, if wetlands are involved, an Adirondack Park Agency permit.
6. If the standing water is greater than one acre in size and/or has an outlet to surface waters, an aquatic pesticides permit is required pursuant to ECL 15-0313(4) and (6) NYCRR327.1 in which case application can only be made by a Certified Applicator or Technician or supervised Apprentice licensed in "Category 5 – Aquatic Vegetation Control".

GENERAL PRACTICES

1. **Minimum Tools Approach** – State land stewardship involving invasive plant species management practices should always incorporate the principles of the Minimum Tools Approach. Any group or individual implementing such practices on State land should only use the minimum tools, equipment, devices, force, actions or practices that will effectively reach the desired management goals.

Implicit in this document is the stricture to implement a hierarchy of management practices based upon the target species and site conditions starting with the least intrusive and disruptive methods.

2. **Notification** – The following best management practices are intended to be used only when invasive terrestrial plant species are identified on Forest Preserve lands. These management techniques are temporary activities and are implemented with t ultimate goal being protection and restoration of native plant communities. Appropriate signage should be employed to explain the project. It may also be appropriate to issue press releases to explain the goals and techniques of the management activities.

3. **Motorized Equipment** – All use of motorized equipment on State lands under the jurisdiction of the DEC within the Adirondack Park shall be in compliance with Commissioner's Policy Number 17 (DP-17), and other pertinent DEC policy regarding the use of motorized equipment on Forest Preserve Lands.

4. **Erosion Control** - Some of the methods described below require actual digging or pulling of plants from the soil. In all cases they require removal of vegetation whether or not there is actual soil disturbance. Each situation must be studied to determine if the proposed control method and extent of the action will destabilize soils to the point where erosion is threatened. Generally if more than 25 square feet of soil surface is cleared or plant removal occurs on steep slopes staked silt fencing should be installed and maintained.

5. **Revegetation** - Although not a specific condition, replanting or reseeding with native species is highly desired. All of the control methods below are aimed at reducing or eliminating invasive species so that natives are encouraged to grow and re-establish stable conditions that are not conducive to invasive colonization. In most cases removal or reduction of invasive populations will be enough to release native species and re-establish their dominance on a site. However, replanting or reseeding with native species may be required.

3. **Herbicide Treatments** - The only herbicide application allowed is spot treatment to individual plants using a back pack or hand sprayer, wick applicator, cloth glove applicator, stem injection or herbicide clippers. **No broadcast herbicide applications using, for example, a truck-mounted sprayer, are allowed.** The only herbicides contemplated and approved for use are glyphosate which is marketed under the trade names ROUNDUP®, RODEO®, GLYPRO® or AQUAMASTER®. ROUNDUP® may be used only in situations where there is no standing water including wetlands, whereas RODEO® may be used where standing water is present. **In all cases all herbicide directions for use and restrictions found on the label must and shall be followed by a New York State Certified Applicator or Technician in an appropriate category.**

Glyphosate and is a non-selective herbicides that are is applied to plant foliage, or cut stems or stem injected and are then translocated to the roots. The application methods described and allowed are designed to reduce or eliminate the possibility that non-target species will be impacted by the herbicide use. All herbicide spot treatments require follow-up inspection later in the growing season or the following year to re-treat any individuals that were missed. Stem injections may be implemented using a large gauge needle or specialized injection tool such as the JK Injection System (www.jkinjectiontools.com).
All herbicide mixing will be done in accordance with the label precautions and take place at a staging area (typically at a marshalling yard or a vehicle). No mixing shall take place on State lands unless at an approved location constructed for such use. Unused chemical and mixes shall be disposed of in a legal manner. No chemical or mix shall be disposed of on State lands unless at an approved location constructed for such use.

4. **Sanitation** – Management personnel must attempt to prevent invasive plant propagules from entering a treatment site or from being exported from it. Therefore, personnel must insure that their clothing including boots do not carry seeds or other propagules or weed seed infected soil clods. At the beginning of the field day personnel should inspect their clothing and boots at the staging area. Prior to leaving the treatment site personnel should conduct another inspection and remove any propagules or soil clods from their clothing or boots. Personnel must insure that all equipment used for invasive species control, whether it be hand or power driven, must be cleaned prior to entering onto a control site and prior to leaving the site. Vehicles and equipment can be cleaned at a staging area that is distant from the control site after management activities if precaution are taken during transport to contain any propagules. This is an effort to reduce transport of invasive plant seeds or plant propagules and reduce the potential for new invasive introductions. Use steam or hot water to clean equipment.

5. **Material Collection and Transportation** – While on the control site place all cut plant material in heavy duty, 3 mil or thicker, black contractor quality plastic clean-up bags. Securely tie the bags and transport from the site in a truck with a topper or cap in order to prevent spread or loss of the plant material during transport from the control work site. Transport the material to a legal disposal location.

6. **Composting** - Because of the extremely robust nature of invasive species, composting in a typical backyard compost pile or composting bin is not appropriate. However, methods can be used whereby sun-generated heat can be used to destroy the harvested plant materials. For instance, storage in a sealed 3 mil thickness (minimum) black plastic garbage bags on blacktop in the sun until the plant materials liquefy is effective. If a larger section of blacktop is available, make a black plastic (4 mil thickness minimum) envelope sealed on the edges

with sand bags. The plant material left exposed to the sun will liquefy in the sealed envelope without danger of dispersal by wind. The bags or envelopes must be monitored to make sure the plants do not escape through rips, tears or seams in the plastic.

CONTROL METHODS FOR PURPLE LOOSESTRIFE (Lythrum salicaria)

PLANT DESCRIPTION

Purple loosestrife is a wetland perennial native to Eurasia that forms large, monotypic stands throughout the temperate regions of the U.S. and Canada. It has a vigorous rootstock that serves as a storage organ, providing resources for growth in spring and regrowth if the plant has been damaged from cuttings. New stems emerge from the perennial roots enabling the plant to establish dense stands within a few years. Seedling densities can approach 10,000-20,000 plants/m² with growth rates exceeding 1 cm/day. A single, mature plant can produce more than 2.5 million seeds annually which can remain viable after 20 months of submergence in water. In addition, plant fragments produced by animals and mechanical clipping can contribute to the spread of purple loosestrife through rivers and lakes.

MANAGEMENT OPTIONS

1. Digging/pulling

Effectiveness:
Can be effective in small stands i.e.:<100 plants, low-med density(1-75% area), & <3 acres, especially on younger plants in unconsolidated soils.

Methods:
Hand-pull plants <2 years old. Use mini-tiller for plants>2 years - gets most of roots w/minimum soil disturbance, has 3 heavy duty prongs on 1 side that are pushed under base of plant, then pry back on handle to leverage plant out of ground. Use weed wrench for plants > 2 years old - good w/minimal soil disturbance. In mucky conditions, put base of wrench on small piece of wood (e.g.: piece of 2x4) to keep wrench from sinking into mud. Use shovel for plants > 2 years old - dig up plant, tamp down disturbed area and/or then replace soil and any existing cover.

Cautions:
May increase habitat disturbance & increase spread of loosestrife. Requires follow-up treatments of sites for 3 years to eliminate re-sprouting from fragments left behind. Must pull/dig ENTIRE rootstock or resprouting will likely occur.

Must pull/dig before the plants begin setting seed or must remove flower/seed heads first (cut into bags) to prevent spread of seeds. Also remove previous year's dry seed heads. Erosion control may be necessary.

Disposal:
Bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits)..

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

2. Cutting

Effectiveness:
Can be effective in small stands i.e.<100 plants, low-med density (1-75% area), & <3 acres, especially on younger plants.

Methods:
Remove flower heads before they go to seed, so seed isn't spread when cutting or mowing. Must do repeated cutting & mulching to permit growth of grasses.

Cautions:
Need to repeat for several years to reduce spread of plants. Doesn't affect rootstalk & thus, cut pieces can be spread that will resprout. Once severed, stems are buoyant and may disperse to other areas and re-sprout. Removal of seed heads should be done as late in the growing season as possible yet before seed set. Early cutting without additional seed head harvest could allow resprouting with greater subsequent seed production.

Disposal:
Bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

3. Herbicide

Effectiveness:
Use when>100 plants & <3-4 acres in size.

Methods:
Use glyphosate formulations only. If possible treat seedlings before they reach 12" in height. Cut and bag flower heads before applying herbicide. Apply prior to or when in flower (late July/Aug) so plants are actively growing.
For spot application use:
- sponge tip applicator w/wick.
- stem injection

Cautions:
This herbicide is not selective (kills both monocots & dicots), thus should be applied carefully to prevent killing of non-target species. All tank mixes should be mixed with clean (ideally distilled) water because glyphosate binds tightly to sediments, which reduces toxicity to plants.
Do not apply in windy conditions because spray will drift and kill other plants.
Do not apply if rain is forecast within 12 hours because herbicide will be washed away before it can act. Choose Glyphosate formulation for applications in standing water or along a shoreline.

4. Biocontrol

Two species of leaf-feeding beetle, *Galerucella calmariensis* and *G. pusilla*, have been shown to be effective in controlling purple loosestrife. Over 5 million of these beetles have been released in 30 states including New York, the northeastern and midwestern states as well as all of the Canadian Provinces. The beetles have shown dramatic decreases in purple loosestrife populations with subsequent increases in populations of native species. The scientific literature indicates that the beetles are very specific to purple loosestrife with only minor "spillover" effects that do not compromise non-target plant populations.

Effectiveness:
Use if site has at least a half acre of purple loosestrife of medium to thick density. Best type of control for large patches of loosestrife>3-4 acres.

Methods:
The number of beetles released per site should be based on the size of the site, the density of loosestrife and the economics of purchase. More beetles are generally better than fewer.

Cautions:
Use only if mowing, pesticide and herbicide use are not active practices on the site.

The site must not be permanently flooded and should be sunny. Use only if winged loosestrife, *(Lythrum alatum)* and waterwillow *(Decodon verticillatus)* are not major components of the plant community on the release site. **Please note that identification of winged loosestrife and waterwillow should be done by a professional botanist prior to treatment to determine if this biocontrol method is appropriate.**

CONTROL METHODS FOR COMMON REED (Phragmites australis)

PLANT DESCRIPTION

Phragmites is a perennial grass that can grow to 14 feet in height. Flowering and seed set occur between July and September, resulting in a large feathery inflorescence, purple-hued turning to tan. Phragmites is capable of vigorous vegetative reproduction and often forms dense, virtually monospecific stands. It is unclear what proportion of the many seeds that Phragmites produces are viable. **Please note that identification of phragmites should be done by a professional botanist prior to treatment to distinguish the invasive non-native race from the non-invasive native.**

MANAGEMENT OPTIONS

1. Cutting and Pulling

Effectiveness:
Need to repeat annually for several years to reduce spread of plants. Hand-pulling, though labor intensive, is an effective technique for controlling phragmites in small areas with unconsolidated soils or sediments.

Methods:
The best time to cut phragmites is when most of food reserves are in aerial portion of plant (when close to tassel stage-e.g.: at end of July/early August to decrease plant's vigor. Some patches may be too large to cut by hand, but repeated cutting of the perimeter of a stand can prevent vegetative expansion. Phragmites stems should be cut below the lowest leaf, leaving a 6" or shorter stump.
Hand-held cutters and gas-powered hedge trimmers work well. Weed whackers with a circular blade were found to be particularly efficient, though dangerous.

Cautions:
If cut before in tassel stage or at wrong time, stand density may increase because Phragmites is a grass. Remove cut shoots to prevent re-sprouting and forming stolons.

Disposal:
Cut or pulled material should be removed from the site and composted, land-filled or incinerated. The harvested biomass can be disposed of onsite if the seed heads are removed and the cut stems are dispersed in an upland area.

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

2. Herbicide

Effectiveness:
Herbicide use is a 2 year, 2 step process because the plants may need "touch-up" application, especially in dense stands since subdominant plants are protected by thick canopy & may not receive adequate herbicide in the first application.

Methods:
Use glyphosate formulations only. Cut Phragmites at waist-height just before onset of tassel stage. Immediately squeeze/inject 5 mil of 50% solution of glyphosate into each individual, freshly-cut stem. Secure all cut plant material, remove from site and dispose of at approved landfill or incinerator. 50% solution of glyphosate equates to a one to one mix with distilled water. After 2 to 3 weeks following application of glyphosate, cut or mow down the stalks to stimulate the emergence and growth of other plants previously suppressed. Use spray bottle for individual foliar spot treatments or use swab or syringe w/large gauge needle or Nalgene® Unitary® wash bottle (or equivalent) to apply 1-2 drops directly to cut stems if cutting done first, or cloth glove applicator.

Cautions:
This herbicide is not selective (kills both monocots & dicots), thus should be applied carefully to prevent killing of non-target species. All tank mixes should be mixed with clean (ideally distilled) water because glyphosate binds tightly to sediments, which reduces toxicity to plants.
Do not apply in windy conditions because spray will drift and kill other plants.
Do not apply if rain is forecast w/in 12 hours because herbicide will be washed away before it can act. Choose appropriate glyphosate formulation for applications in standing water or along a shoreline.

3. Plastic*

* This is a temporary use of plastic sheeting on Forest Preserve lands and should be used only if other non-herbicide approaches are considered less effective. In

any case where plastic sheeting is used on Forest Preserve lands signing should be employed to explain the project should be provided.

Effectiveness:
Tarping can be effective in small stands i.e.:<100 plants, low-med density(1-75%area). Plants die off w/in 3-10 days, depending on sun exposure.

Methods:
Cut plants first to 6-8" (hand clippers or loppers, hand-pushed bush hog or weed whacker w/blade). After cutting a stand of phragmites, anchor a sheet of plastic over the cut area using sand bags or rocks. High temperatures under the plastic will eventually kill off the plants. This technique works best when the treated area is in direct sunlight. Black plastic is desirable, but clear plastic also works. Plastic should be at least 6 millimeters thick. Hold plastic in place with sandbags, rocks, etc.
Can treat runners along edge w/spot application of glyphosate. Cut holes in plastic in Oct.- Nov. to promote germination of cattail shoots. The plastic can be removed the following year when the covered plants have been killed. A few phragmites shoots may return. These can be cut or hand-pulled.

Cautions:
Must monitor to determine if shoots are extending out from under the plastic.

Disposal:
Can leave cut material under plastic or bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits. All plastic sheeting must be removed from State lands.

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

4. Cutting

Effectiveness:
Can be effective in small stands i.e.<100 plants, low-med density (1-75%area) & <3 acres.

Methods:
Cut just before the end of July, most of the food reserves produced that season are removed with the aerial portion of the plant reducing the plant's vigor. This regime may eliminate a colony if carried out annually for several years. Can do after herbicides.

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

5. Pulling

Effectiveness:
Can be effective in small stands i.e.<100 plants. Very labor intensive. Best with sandy soils.

Methods:
Hand-pull plants<2 years old. Use shovel for plants>2 years old-dig up plant, then replace soil and any existing cover.

Disposal:
Bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

6. Excavation

Effectiveness:
Can be effective for patches up to ½ acre. Cost is the limiting factor.

Methods:
When working in wetlands only tracked equipment shall be used. Rubber-tired excavators can operate from adjacent pavement or upland areas. All use of motorized equipment on State lands under the jurisdiction of the DEC within the Adirondack Park shall be in compliance with Commissioner's Policy Number 17 (CP17), and other pertinent DEC policy regarding the use of motorized equipment on Forest Preserve Lands.

Cautions:
The patch should be excavated to below the depth of rhizome development. Follow-ups later in the season or the following year must be conducted to verify that all the plants have been removed.

Disposal:
Bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

CONTROL METHODS FOR GARLIC MUSTARD (Alliaria petiolata)

PLANT DESCRIPTION

Garlic mustard is a naturalized European biennial herb that typically invades partially shaded forested and roadside areas. It is capable of dominating the ground layer and excluding other herbaceous species. Its seeds germinate in early spring and develops a basal rosette of leaves during the first year. Garlic mustard produces white flowers between late April and June of the following spring. Plants die after producing seeds, which typically mature and disperse in August. Normally its seeds are dormant for 20 months and germinate the second spring after being formed. Seeds remain viable for up to 5 years.

MANAGEMENT OPTIONS

1. Pulling.

Effectiveness:
Hand pulling is an effective method for removing small populations of garlic mustard, since plants pull up easily in most forested habitats. Plants can be pulled during most of the year. However, pulling also disturbs the soil and can increase rates of germination of buried seeds. In most cases cutting is the preferred hand control option.

Methods:
Soil should be tamped down firmly after removing the plant. Soil disturbance can bring garlic mustard seeds to the surface, thus creating a favorable environment for their germination.

Cautions:
Care should be taken to minimize soil disturbance but to remove all root tissues. Re-sprouting is uncommon but may occur from mature plants not entirely removed. Cutting is preferred to pulling due to potential for soil disturbance.

Disposal:
If plants have capsules present, they should be bagged and disposed of to prevent seed dispersal. Bag all plant parts & remove from site (compost at DOT Residency, dispose of in approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

2. Cutting

Effectiveness:
Cutting is effective for medium-to large-sized populations depending on available time and labor resources. Dormant seeds in the soil seed bank are unaffected by this technique due to minimal disturbance of the soil.

Methods:
Cut stems when in flower (late spring/early summer) at ground level either manually (with clippers or a scythe) or with a motorized string trimmer. This technique will result in almost total mortality of existing plants and will minimize re-sprouting.

Cautions:
Cuttings should be conducted annually until the seedbank is depleted.

Disposal:
Cut stems should be removed from the site when possible since they may produce viable seed even when cut. Bag all plant parts & remove from site (compost at DOT Residency, dispose in approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

3. Herbicide

Effectiveness:
Glyphosate will not affect subsequent seedling emergence of garlic mustard or other plants.

Methods:
Use glyphosate formulations only. Should be applied after seedlings have emerged, but prior to flowering of second-year plants. Application should be by wick applicator or spray bottle for individual spot treatments.

Cautions:
This herbicide is not selective (kills both monocots & dicots), thus should be applied carefully to prevent killing of non-target species. All tank mixes should be mixed with clean (ideally distilled) water because glyphosate binds tightly to sediments, which reduces toxicity to plants.
Do not apply in windy conditions because spray will drift and kill other plants.
Do not apply if rain is forecast w/in 12 hours because herbicide will be washed away before it can act. Choose appropriate glyphosate formulation for applications in standing water or along a shoreline.

CONTROL METHODS FOR JAPANESE KNOTWEED (Polygonum cuspidatum)

PLANT DESCRIPTION

Japanese knotweed is an herbaceous perennial which forms dense clumps 1-3 meters (3-10 feet) high. Its broad leaves are somewhat triangular and pointed at the tip. Clusters of tiny greenish-white flowers are borne in upper leaf axils during August and September. The fruit is a small, brown triangular achene. Knotweed reproduces via seed and by vegetative growth through stout, aggressive rhizomes. It spreads rapidly to form dense thickets that can alter natural ecosystems. Japanese knotweed can tolerate a variety of adverse conditions including full shade, high temperatures, high salinity, and drought. It is found near water sources, in low-lying areas, waste places, and utility rights of way. It poses a significant threat to riparian areas, where it can survive severe floods.

MANAGEMENT OPTIONS

1. Digging

Effectiveness:
This method is appropriate for very small populations.

Methods:
Remove the entire plant including all roots and runners using a digging tool. Juvenile plants can be hand-pulled depending on soil conditions and root development.

Cautions:
Care must be taken not to spread rhizome or stem fragments. Any portions of the root system or the plant stem not removed will potentially re-sprout.

Disposal:
All plant parts, including mature fruit, should be bagged and disposed of in the trash to prevent re-establishment (i.e. stockpile at DOT Residency with prior approval, dispose of in an approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

2. Cutting

Effectiveness:
Repeated cutting may be effective in eliminating Japanese knotweed. Manual control is labor intensive, but is a good option where populations are small and isolated or in environmentally sensitive areas.

Methods:
Cut the knotweed close to the ground at least 3 times a year. Plant locally prevalent native species as competitors as an alternative to continued treatment.

Cautions:
This strategy must be carried out for several years to obtain success. Both mechanical and herbicidal control methods require continued treatment to prevent reestablishment of knotweed.

Disposal:
Bag all plant parts & remove from site (i.e. stockpile at DOT Residency with prior approval, dispose of in an approved landfill or incinerate with appropriate permits).

Sanitation:
Clean all clothing, boots, & equipment to prevent spread of seed. See #4 under General Practices.

3. Herbicide

Effectiveness:
Glyphosate or trichlopyr treatments in late summer or early fall are much more effective in preventing regrowth of Japanese knotweed the following year.

Methods:
Use glyphosate or trichlopyr formulations only.

Strategy:
1) Late June - Cut down stalks. If stem injection is used stalks do not have to be cut.
2) Allow knotweed to regrow.
3) After August 1, implement foliar spray, cut stem swab or stem injection of knotweed with glyphosate or trichlopyr. Stem injection should be below the 2nd node above the ground level.

Cautions:
Established stands of Japanese knotweed are difficult to eradicate even with repeated herbicide treatments. However, herbicide treatments will greatly weaken the plant and prevent it from dominating a site. Adequate control is usually not possible unless the entire stand of knotweed is treated (otherwise, it will re-invade via creeping rootstocks from untreated areas). Empirical evidence is that trichlopyr is more effective than glyphosate in causing Japanese knotweed mortality.

These herbicides are not selective (kills both monocots & dicots), thus should be applied carefully to prevent killing of non-target species. All tank mixes should be mixed with clean (ideally distilled) water because glyphosate binds tightly to sediments, which reduces toxicity to plants.
Do not apply in windy conditions because spray will drift and kill other plants.
Do not apply if rain is forecast w/in 12 hours because herbicide will be washed away before it can act. Choose appropriate glyphosate formulation for applications in standing water or along a shoreline.

APPENDIX 7

Mountain Bike Trail Standards and Guidelines

Mountain Bike Trail Standards and General Guidelines
According to the 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.
- Keep trails below 2,000 ft.
- 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.
- 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, minimize cuts and fills following the contour, cut full benches to construct the tread. Outsloping in this manner helps to remove water from the trail. Vegetate backslopes.
- 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 8

DRAFT COMPREHENSIVE
SNOWMOBILE TRAIL BRIEFING DOCUMENT

DRAFT VISION AND GOALS STATEMENTS: DRAFT COMPREHENSIVE SNOWMOBILE PLAN FOR THE ADIRONDACK PARK

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 of the State Constitution while also striving to enhance the vitality of the Park's citizens by providing trail linkages between local communities within the Park.

Goals

1. Protect natural and cultural resources and the wild forest character of public lands in the Park (as envisioned by the Constitution, SLMP and appropriate laws, rules, regulations) by:

- considering underutilized trails for abandonment
- utilizing to the maximum extent possible routes parallel and near to travel/transportation corridors for new trail development
- encouraging long-term commitment of corridor trail systems on private lands
- establishing a clear set of standards for snowmobile trails and snowmobile related activities on public lands

2. Providing a safe, enjoyable snowmobile experience by:

- minimizing dependency on lake and road crossings
- avoiding unsafe trail conditions
- encouraging partnerships with the private sector, state and local governments that will provide, maintain and operate snowmobile trails
- 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.)
- identifying important snowmobile trail connections

APPENDIX 9

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APPENDIX 10

Easement Terms

IP Easement Terms

A. RIGHTS GRANTED TO GRANTEES

1. Right of Entry. The right to enter the PROTECTED PROPERTY, on foot or by vehicle, at all reasonable times for the purposes of: (a) inspecting the PROTECTED PROPERTY to determine if the GRANTOR, or its successors or assigns, is complying with the terms, conditions, covenants and restrictions set forth in this easement; (b) enforcing the terms of this Conservation Easement and taking any and all actions with respect to the PROTECTED PROPERTY as may be necessary or appropriate, with or without order of court, to remedy or abate violations hereof; ©) observing and studying nature and making scientific and educational observations and studies and taking samples in such a manner as will not disturb the quiet enjoyment of the PROTECTED PROPERTY by the GRANTOR, its successors and assigns. The GRANTEES shall make known to the GRANTOR the results of the observations and studies undertaken pursuant to this authorized purpose and (d) responding to any natural disaster, environmental hazard or threats to human safety and to take any reasonable emergency action necessary to prevent an environmental hazard, or prevent the threat to human safety on the PROTECTED PROPERTY. The GRANTOR shall be notified and consulted with, relative to any such emergency action. The GRANTEES further agree to consult with the GRANTOR concerning applicable safety regulations prior to entering upon the PROTECTED PROPERTY for other than enforcement and emergency purposes.
   The right to enter the PROTECTED PROPERTY herein granted may be exercised by the GRANTEES, their successors and assigns, and their officers, employees, agents or contractors of any of them, by an appropriate means including, without limitation, any motorized vehicle, equipment or device.
2. Access. GRANTOR also grants to the GRANTEES and their successors and assigns an easement for administrative use by the GRANTEES and their officers, employees, agents, or contractors or any of them to be used in common with the GRANTOR, its successors and assigns, over and along all existing roadways, running from New York State Route 3 to and through the PROTECTED PROPERTY, for purposes of

carrying out the rights hereinabove granted to the GRANTEES. Further, for purposes of administrative access to lands located adjacent to the PROTECTED PROPERTY commonly referred to as the Raquette River Corridor Parcel, which is to be conveyed by the GRANTOR herein to the GRANTEES, by separate conveyance, an easement over three existing roadways more particularly described as follows:

Road I

The existing road extending from New York State Route 3 and running through Lots N, K, and L of the northwest quarter of Township 6, Great Tract 2, Macomb's Purchase, approximately 7128 feet in a northeasterly direction to the old bridge site on the Raquette River, Said road commences on Route 3 just to the east of a 5-acre parcel excepted out of a 59.3-acre parcel of land in Lot N and in a .68-acre parcel connecting said 59.3-acre parcel with Route 3.

Road II

The existing road in Lot 16 of the South half of Township 6, Great Tract 2, Macomb's Purchase, which leads from New York State Route 3 in a northerly direction through a former gravel pit area and terminates at the westerly boundary of the Raquette River Corridor parcel near the confluence of the Raquette River with Dead Creek.

Road III

The existing road extending from New York State Route 3 near the Southwest corner of Lot 10 of the South half of Township 6, Great Tract 2, Macomb's Purchase, which leads from New York State Route 3 in a northwesterly direction approximately 3/8 of a mile to the westerly boundary of the Raquette River Corridor Parcel.

Normal maintenance of the roads covered by these easements shall be at the sole discretion of the GRANTOR so long as said maintenance complies with all applicable State and federal regulations. GRANTOR is not obligated, as a condition of this easement, to perform maintenance on the access roads referenced. In the event GRANTEES damage a road covered by these easements, GRANTEES shall, subject to the availability of funds,

repair the road to a condition as near as practicable to the condition of the road prior to the damage. If funding is not available for such road repairs, GRANTEES shall suspend their use of all roads until such time as funds for road repairs are available.
GRANTOR reserves the right to gate any and all roads which access the PROTECTED PROPERTY or which are interior to it. In the event such gate or gates restricts the GRANTEES' authorized access to or ability to move freely within the PROTECTED PROPERTY, GRANTOR will provide GRANTEES with keys or combinations which will open the restrictive gates.
GRANTOR reserves the right to periodically close any of the roads for maintenance, inclement or adverse weather conditions of its effects, for safety reasons or any other reasonable cause.
Nothing contained in this Conservation Easement shall give or grant to the public a right to enter upon or to use the PROTECTED PROPERTY.

B. COVENANTS AND RESTRICTIONS

In furtherance of the purposes of this Conservation Easement, the GRANTOR makes the following covenants, on behalf of itself, its successors and assigns, which covenants shall run with and bind the PROTECTED PROPERTY in perpetuity, unless extinguished or modified under the provisions of Section 49-0307 of the Environmental Conservation Law, or amended pursuant to Item 8 of the TERMS AND CONDITIONS Section of this Conservation Easement.

1. Structures. There shall be no placement, construction or maintenance of structures of any kind on the PROTECTED PROPERTY, including but not limited to buildings, residences, radio towers, landing strips, billboards or other advertising material, antennas, towers, conduits, camping accommodations or mobile homes, or other structures, including the continued maintenance of any structure on foundations, existing on the PROTECTED PROPERTY at the time of this grant, except for the following:

(a) The GRANTOR may construct and maintain, including any which may exist at the time of this grant, a total of twenty (20) seasonal hunting camps, together with accessory structures normally associated with hunting camps, on the PROTECTED PROPERTY. Such hunting camps shall be designed for seasonal and occasional occupancy only, shall be less than 500 square feet in size, and conform with the

existing Adirondack Park Agency definition of a hunting camp structure.

(b) The GRANTOR may construct and maintain such additional non-residential, temporary structures as are necessary for management of the PROTECTED PROPERTY for forest products, consistent with the purpose of this Conservation Easement.

(c) The GRANTOR may construct and maintain roads and trails on the PROTECTED PROPERTY and such permanent or temporary structures as are necessary or appropriate in connection with such roads and trails and the management of the PROTECTED PROPERTY for forest products, as a natural area, and in conjunction with the management of the GRANTOR's reserved rights, such as bridges, culverts, gates, fences, posted or informational signs.

(d) The GRANTOR may, subject to the approval of the GRANTEES, which approval shall not be unreasonably withheld, construct and maintain roads, structures and improvements necessary to reasonably administer the mining rights reserved in the GRANTOR'S RESERVED RIGHTS section of this easement.

2. Minerals. There shall be no extraction of minerals from the PROTECTED PROPERTY using strip or surface mining techniques which would disturb the natural, undeveloped appearance of a significant portion of the PROTECTED PROPERTY, except that GRANTOR may employ surface mining techniques in the removal of sand, clay and gravel in quantities necessary for the management and administration of the GRANTOR'S RESERVED RIGHTS to construct and maintain roads to be used in connection with such reserved rights.

3. Dumping. No dumping or storing of ashes, sawdust, non-composted organic waste, "offsite" sewage or garbage, scrap material, sediment discharges, oil and its by-products, leached compounds, toxic fumes or other unsightly or offensive material shall be allowed on or under the PROTECTED PROPERTY, except for ashes, sawdust, sewage, garbage, or other materials produced on site in connection with the exercise of those rights expressly reserved in the GRANTOR's RESERVED RIGHTS section.

4. Pesticides. No application of pesticides, including but not limited to
insecticides, fungicides, rodenticides and herbicides shall be allowed on the PROTECTED PROPERTY, except in

connection with the exercise of those rights expressly reserved in the GRANTORS' RESERVED RIGHTS section, and in accordance with all applicable federal, State and local laws and regulations.

5. Utility Lines. No new telephone, telegraph, cable, television, electric, gas, water or sewer or other utility lines shall be routed over, under on or above the PROTECTED PROPERTY without the prior written consent of the GRANTEES, which consent shall not be unreasonably withheld, except as may be expressly reserved in the GRANTOR'S RESERVED RIGHTS section, or pursuant to Section 49-0307 of the Environmental Conservation Law; provided, however, that this clause shall not affect the exercise of those rights of Niagara Mohawk Power Corporation (NIMO) which were reserved in a deed from NIMO to Paul Smith's College of Arts and Sciences, dated December 29, 1969, and recorded in the St. Lawrence County Clerk's Office in Liber of deeds 834 at page 115.

C. GRANTOR'S RESERVED RIGHTS

NEVERTHELESS, and notwithstanding any of the foregoing provisions to the contrary and except as expressly limited herein, the GRANTOR reserves for itself, its successors and assigns, the right to perform any act not specifically prohibited or restricted under the COVENANTS AND RESTRICTIONS section of this Conservation Easement, including, without limitation, the right of exclusive use, possession and enjoyment of the PROTECTED PROPERTY, the right to sell, transfer, lease, mortgage or otherwise encumber the PROTECTED PROPERTY, as owner, subject to the restrictions, covenants, terms and conditions set forth herein.

1. GRANTOR expressly retains the right to manage, grow and commercially harvest timber and other forest products on the PROTECTED PROPERTY, together with rights to construct, use and maintain logging roads (including the right to utilize sand and gravel from the PROTECTED PROPERTY in the construction thereof), and to use motorized vehicles, subject to the terms of this grant.
2. International Paper Company, a New York Corporation (IPCO), holder of a mineral interest on the Protected Property, joins in the execution of this agreement solely for the limited purpose of binding its interest to the terms and conditions of this agreement. IPCO expressly retains the right to extract oil, gas, and other minerals from the Protected

Property by drilling, shaft or other commercial sub-surface mining techniques, or by such other methods as will not conflict with the restrictions appearing in paragraph B(2) of the COVENANTS AND RESTRICTIONS section. IPCO further retains the right, subject to the approval of GRANTEES, with such approval not being unreasonably withheld, to construct, use and maintain the roads, structures and other improvements necessary to conduct said mining operations. Any mining activities conducted on the Protected Property shall be operated in compliance with all applicable laws and regulations.

HOLLYWOOD MOUNTAIN TRACT EASEMENT AFFIRMATIVE RIGHTS

Those rights agreed to by the parties herein as running with the Protected Property are more fully described as follows:

1. The Grantor grants to the Grantee and its successors and assigns the right to view the Protected Property in its current state, including the right of public access to the Protected Property for recreational purposes only, subject to the terms and conditions and reserved rights set forth herein. This right of public recreational use includes the following:
   A. Access to and over the Protected Property by bicycle or foot,
   including hiking, snowshoes, cross-country skiing, and/or horseback, the use of horses or other similar animals for riding or transportation of supplies is permitted.
   B. Public access to the Protected Property by motor vehicle shall be limited to the Main Haul Roads of the property.
   C. Snowmobiles and ATVs may use all existing roads except those roads which are plowed by the Grantor and are being used for logging purposes. The Grantee is responsible for all necessary signage to indicate trails open for public ATV and snowmobile use.
   D. Canoe and other means of non-motorized access and travel by the public on any navigable streams or bodies of water crossing or situated on the Protected Property.
   E. Camping by the public is permitted and will be regulated in the same manner as on existing Forest Preserve Land or in accordance with the Recreation

Plan as defined in Item 5a of the Terms and Conditions section of this agreement.

F. Firewood may be gathered and/or cut from dead and down trees only for and to the extent of onsite use by the public to build fires for cooking or warmth only. Open fires will be regulated in the same manner as on existing Forest Preserve.

G. Hunting, fishing and trapping by the public is permitted in
accordance with established seasons and applicable rules and regulations.

H. Grantee shall have the right to construct and maintain new roads and trails for snowmobiles, ATVs and foot travel by the public in addition to those which may already exist on the Protected Property as long as those trails do not interfere with the Grantor's reserved right of Forest Management, are mutually agreed upon by the Grantor and Grantee prior to such construction and are provided for in the Grantee's Recreation Plan to be developed.

I. Grantee shall have the right to construct and maintain motor vehicle roads and parking lost as necessary for the exercise of the recreational rights conveyed in this easement. However, the location of any new roads or any parking lots exceeding two acres in size shall be mutually agreed upon by Grantor and Grantee prior to such construction and be described in Recreation Plan described in Item 5a of the Terms and Conditions portion of this agreement. Any timber removed by the construction of these roads or parking lots shall belong to the Grantor.

J. The Grantee shall have the right to manage the fish and wildlife resources on the Protected Property for the long term use and benefit of the public.

K. In no case shall the rights of the public to use the Protected Property exceed those uses as defined in Section 9-103(1)(a) of the New York State General Obligations Law as currently written, or hereinafter modified.

2. In response to natural disaster, environmental hazard or threats to human health and safety, or property either Grantor or Grantee may take any emergency action necessary to preserve the Protected Property. The other party to this Conservation Easement shall be immediately notified and

consulted with relative to any such emergency action.

3. The right to enter the Protected Property at all reasonable times and with prior notice for the purpose of:
   a) Inspecting the Protected Property to determine if the Grantor is complying with the covenants and purposes of the Conservation Easement.
   b) Enforcing the terms of the Conservation Easement.
   c) Taking any and all actions with respect to the Protected Property as may be necessary or appropriate, with or without order of court, to remedy or abate violations of the Conservation Easement.

DECLARATION OF RESTRICTIONS

The parties agree that the following restrictions shall apply to the Protected Property in perpetuity:

1. This Working Forest will be considered a commercial forest managed by a Professional Forester under the direction and control of the Grantor and guided by a silviculturally based forest management plan that encompasses both the economic and biological aspects of forestry. The Grantor agrees that all harvesting activities shall conform to all applicable Federal and State rules and regulations guiding the harvesting of forest products.
2. No buildings, residences, mobile homes or other structures, fences, signs, billboards or other advertising material shall be constructed or placed in, on, over, under or upon the Protected Property except to the extent provided in the RESERVED RIGHTS Section and Item 5b of the TERMS AND CONDITIONS section of this Conservation Easement.
3. Except as provided in the RESERVED RIGHTS Section, no application of pesticides, including but not limited to insecticides, fungicides, rodenticides and herbicides shall be allowed.
4. Except to the extent provided in the RESERVED RIGHTS Section, no dumping or storing of ashes, sawdust, noncomposted organic waste, “offsite” sewage or garbage, scrap material, sediment discharges, oil and its by-products, leached compounds, toxic fumes or any other unsightly or offensive material shall be allowed in, on, over, under or upon the Protected Property.
5. No snowmobiles, dune buggies, motorcycles, all-terrain vehicles or other recreational vehicles shall be operated on the Protected Property by Grantor except as they may be used for inspection, maintenance, fire protection or other

emergency needs, and for the furtherance of Grantor's RESERVED RIGHTS, or as authorized in the AFFIRMATIVE RIGHTS Section of this Conservation Easement. No off-road or off-trail use of automobiles, trucks, vans, all terrain vehicles, snowmobiles, or other motor vehicles shall be permitted on the Protected Property, except as is necessary for operations as described in the RESERVED RIGHTS Section. This restriction does not impair the public or Grantor's access rights described in this Conservation Easement.

6. No exterior artificial illumination shall be employed on the Protected
Property, other than that employed on the date hereof, without prior written consent of the Grantee, except as is reasonably required for enjoyment of the RESERVED RIGHTS by the Grantor.
7. No residential, commercial or industrial activities of any kind shall be permitted on the Protected Property other than those specifically provided for in the RESERVED RIGHTS Section, or as may be authorized by the mutual consent of the parties herein in writing.
8. Except as may be specifically permitted in the RESERVED RIGHTS Section or pursuant to Environmental Conservation Law Section 49-0307, no new telephone, telegraph, cable television, electric, gas, water or sewer or other utility or communications lines or facilities shall be placed upon or routed over, under, in, on, upon or above the Protected Property without the prior written consent of the Grantor and the Grantee.
9. No mining will be conducted and no minerals, gas or oil will be extracted from the property except the onsite use of gravel for road construction as provided for in the RESERVED RIGHTS Section will be permitted, subject to any applicable laws and governmental regulation.

CONSERVATION FUND EASEMENT

A. RIGHTS GRANTED TO GRANTEE

1. Right of Entry. The right to enter the PROTECTED PROPERTY, on foot or by vehicle, at all reasonable times for the purposes of (a) inspecting the PROTECTED PROPERTY to determine if the GRANTOR, or its successors or assigns, is complying with the terms, conditions, covenants and restrictions set forth in this easement; (b) enforcing the terms of this Conservation Easement and taking any and all actions with respect to the PROTECTED PROPERTY as may be necessary or appropriate, with or without order of court, to remedy or abate violations hereof; ©) observing and studying nature and making scientific and educational observations and studies and taking samples in such a manner as will not disturb the quiet enjoyment of the PROTECTED PROPERTY by the GRANTOR, its successors and assigns (The GRANTEE shall make known to the GRANTOR the results of the observations and studies undertaken pursuant to this authorized purpose); and (d) responding to any natural disaster, environmental hazard or threats to human safety and to take any reasonable emergency action necessary to prevent an environmental hazard or prevent the threat to human safety on the PROTECTED PROPERTY. The GRANTOR shall be notified and consulted with relative to any such emergency action. The GRANTEE further agrees to consult with the GRANTOR concerning applicable safety regulations prior to entering upon the PROTECTED PROPERTY for other than enforcement and emergency purposes.
   The right to enter the PROTECTED PROPERTY herein granted may be exercised by the GRANTEE, its successors and assigns, and the officers, employees, agents or contractors of any of them, by any appropriate means including, without limitation, any motorized vehicle, equipment or device.
2. Access. GRANTOR also grants to the GRANTEE, and its successors and assigns, an easement exclusively for administrative use by the GRANTEE, its successors and assigns and the officers, employees, agents, or contractors of any of them, to be used in common with the GRANTOR, its successors and assigns, over and along all existing roadways, running from New York State Route 3 to and through the

PROTECTED PROPERTY, for purposes of carrying out the rights hereinabove granted to the GRANTEE.

Normal maintenance of the roads covered by these easements shall be at the sole discretion of the GRANTOR so long as said maintenance complies with all applicable state and federal regulations. GRANTOR is not obligated, as a condition of this easement, to perform maintenance on the access roads referenced. In the event GRANTEE damages a road covered by these easements, GRANTEE shall, subject to the availability of funds, repair the road to a condition as near as practicable to the condition of the road prior to the damage. If funding is not available for such road repairs, GRANTEE shall suspend its vehicular use of all roads until such time as funds for road repairs are available.

GRANTOR reserves the right to gate any and all roads which access the PROTECTED PROPERTY or which are interior to it. In the event such gate or gates restrict the GRANTEE's authorized access to or ability to move freely within the PROTECTED PROPERTY, GRANTOR will provide GRANTEE with keys or combinations which will open the restrictive gates.

GRANTOR reserves the right to periodically close any of the roads for maintenance, inclement or adverse weather conditions or its effects for safety reasons or any other reasonable cause.

Nothing contained in this Conservation Easement shall give or grant to the public a right to enter upon or to use the PROTECTED PROPERTY.

B. COVENANTS AND RESTRICTIONS

In furtherance of the purposes of this Conservation Easement, the GRANTOR makes the following covenants, on behalf of itself, its successors and assigns, which covenants shall run with and bind the PROTECTED PROPERTY in perpetuity, unless extinguished or modified under the provisions of Section 49-0307 of the Environmental Conservation Law, or amended pursuant to Item 8 of the TERMS AND CONDITIONS section of this Conservation Easement.

1. Structures. There shall be no placement, construction or maintenance of structures of any kind on the PROTECTED PROPERTY, including but not limited to buildings, residences, radio towers, landing strips, billboards or other advertising material, antennas, towers, conduits, camping accommodations or mobile homes or other structures, including the continued maintenance of any structure on

foundations, existing on the PROTECTED PROPERTY at the time of this grant, except for the following:

(a) The GRANTOR, its successors and assigns may, on lands described in Schedule A, construct and maintain seasonal hunting camps, together with accessory structures normally associated with hunting camps, on the PROTECTED PROPERTY in conformance with the existing Adirondack Park Agency definitions and regulations for hunting camp structures. No additional seasonal hunting camps, except as exist on the date of this document, may be constructed on lands described in Schedule B, provided; however, the GRANTOR, its successors and assigns may repair or replace existing structures.

(b) The GRANTOR may construct and maintain such additional non-residential, temporary structures as are necessary for management of the portion PROTECTED PROPERTY described in Schedule A for forest products, consistent with the purpose of this Conservation Easement. Except as otherwise set forth herein, no structures may be built on lands described in Schedule B.

(c) The GRANTOR may construct and maintain roads and trails on the portion of the PROTECTED PROPERTY described in Schedule A and such permanent or temporary structures as are necessary or appropriate in connection with such roads and trails and the management of the PROTECTED PROPERTY in conjunction with the management of the GRANTOR's reserved rights, such as bridges, culverts, gates, fences, posted or informational signs. No new such structures shall be built on lands described in Schedule B; however, existing structures, roads, etc. situated on lands described in Schedule B may be maintained, rebuilt and reconstructed.

(d) The GRANTOR may on the portion of the premises described in Schedule A, subject to the approval of the GRANTEE, which approval shall not be unreasonably withheld, construct and maintain roads, structures and improvements necessary to reasonably administer the mining rights reserved in the GRANTOR's RESERVED RIGHTS section of this easement. No such roads, structures or improvements shall be constructed on lands described in Schedule B.

2. Minerals. There shall be no extraction of minerals from the PROTECTED PROPERTY using strip or surface mining techniques which would disturb the natural, undeveloped

appearance of a significant portion of the PROTECTED PROPERTY, except that GRANTOR may, on the portion of the premises described in Schedule A, employ surface mining techniques in the removal of sand, clay and gravel in quantities necessary for the management and administration of the GRANTOR's RESERVED RIGHTS to construct and maintain roads to be used in connection with such reserved rights. No surface mining of any type may occur on the lands described in Schedule B.

3. Dumping. No dumping or storing of ashes, sawdust, non-composted organic waste "offsite" sewage or garbage, scrap material, sediment discharges, oil and its by-products, leached compounds, toxic fumes or other unsightly or offensive material shall be allowed on or under the PROTECTED PROPERTY, except that ashes, sawdust, sewage, garbage, or other materials produced on site in connection with the exercise of those rights expressly reserved in the GRANTOR's RESERVED RIGHTS section may be deposited on the premises described in Schedule A. No materials of any type may be deposited on the premises described in Schedule A. No materials of any type may be deposited on the premises described in Schedule B.
4. Pesticides. No application of pesticides, including but not limited to
insecticides, fungicides, rodenticides and herbicides, shall be allowed on the PROTECTED PROPERTY, except in connection with the exercise of those rights expressly reserved in the GRANTOR's RESERVED RIGHTS section, and in accordance with all applicable federal, state and local laws and regulations.
5. Utility Lines. Except as may have been granted to third parties prior to the date hereof, no new telephone, telegraph, cable, television, electric, gas, water or sewer or other utility lines shall be routed over, under, on or above the PROTECTED PROPERTY without the prior written consent of the GRANTEE, which consent shall not be unreasonably withheld, except as may be expressly reserved in the GRANTOR's RESERVED RIGHTS section, or pursuant to Section 49-0307 of the Environmental Conservation Law, provided, however, that this clause shall not affect the exercise of those rights of Niagara Mohawk Power Corporation (hereinafter "NIMO") which were reserved in a deed from NIMO to Paul Smith's College of Arts and Sciences, dated December 29, 1969, and recorded in the St.

Lawrence County Clerk's Office in Liber of Deeds 834 at Page 115.

C. GRANTOR'S RESERVED RIGHTS

NEVERTHELESS, and notwithstanding any of the foregoing provisions to the contrary and except as expressly limited herein, the GRANTOR reserves for itself, its successors and assigns, the right to perform any act not specifically prohibited or restricted under the COVENANTS AND RESTRICTIONS section of this Conservation Easement, including, without limitation, the right of exclusive use, possession and enjoyment of the PROTECTED PROPERTY, the right to sell, transfer, lease, mortgage or otherwise encumber the PROTECTED PROPERTY, as owner, subject to the restrictions, covenants, terms and conditions set forth herein.

1. GRANTOR expressly retains the right to manage, grow and commercially harvest timber and other forest products on the portion of the PROTECTED PROPERTY described in Schedule A, together with rights to construct, use and maintain logging roads (including the right to utilize sand and gravel from said portion of the PROTECTED PROPERTY in the construction thereof), and to use motorized vehicles, subject to the terms of this grant. This reservation does not apply to lands described in Schedule B.
2. GRANTOR expressly retains the right to commercially mine the portion of the PROTECTED PROPERTY described in Schedule A using shaft, or other sub-surface drilling techniques, or by such other methods as will not conflict with the restrictions appearing in paragraph "B(2)" of the COVENANTS AND RESTRICTIONS section, and extract minerals, gas or oil therefrom , together with the right, subject to the approval of the GRANTEE, which approval shall not be unreasonably withheld, to construct, use and maintain roads, structures and other improvements necessary to administer said mining operations. Any mining operations, including but not limited to permitted strip mining for the excavation of sand, clay and gravel for road construction, undertaken on the PROTECTED PROPERTY shall be operated in accordance with all applicable laws and regulations. No mining of any type will be permitted on lands described in Schedule B.
3. GRANTOR expressly retains the right to construct, reconstruct, replace, use and maintain those buildings and structures which are listed as exceptions to the general prohibition on construction and maintenance of structures in

paragraph "B(1)" of the COVENANTS AND RESTRICTIONS section of this easement, and in connection with such use to have electrical generating machinery and equipment on said individual exceptions, together with the necessary electrical utility lines to adequately service and illuminate the interior and exterior of such buildings and improvements.

LASSITER CONSERVATION EASEMENT
AFFIRMATIVE RIGHTS

Those rights agreed to by the parties herein as running with the Protected property are more fully described as follows:

1. The Grantor grants to the Grantee and its successors the right to view the Protected Property in its natural state, including the right of public access to the Protected Property for recreational purposes only, subject to the Terms and Conditions and Reserved Rights set forth herein. This right of public recreational use includes the following:

   a. Access to and over the Protected Property by foot including hiking, snowshoes, cross-country skiing or on horseback. The use of horses, or other similar animals, for riding or transport of supplies is permitted.

   b. Access to the Protected Property by vehicle, only over presently established roads. Vehicle, as used in this easement, includes all motor vehicles, bicycles, snowmobiles, all-terrain vehicles and other similar forms of transport.

   c. Canoe and other means of non-motorized access and travel by the public on any navigable streams which cross the Protected Property.

   d. Camping by the public is permitted and will be regulated in the same manner as on existing Forest Preserve land or in accordance with the Unit Management Plan to be developed by the Grantee. Camping by those exercising the Grantor's reserved hunting rights is not subject to regulation by the Grantee, provided that those exercising such rights shall leave the sites free of debris and garbage and shall not create a health hazard.

e. Firewood may be gathered from dead and downed trees only for on-site use by the public to build fires for cooking or warmth only.

f. Fishing and trapping by the public is permitted in accordance with established seasons and applicable rules and regulations.

g. Pursuant to the Reserved Rights Section, the hunting rights have been retained by the Grantor, to the exclusion of the public, on the Protected Property during the period September 1 through and including December 31 for the years 1989 through and including 2019. During those years, hunting by the public is permitted only for any established season not within the September 1 to December 31 period. After December 31, 2019, hunting by the public on the Protected Property is permitted in accordance with established seasons and applicable rules and regulations.

h. Grantee shall have the right to construct and maintain trails for non-motorized and snowmobile use in addition to those which may already exist on the Protected Property subject to the Grantee's Unit Management Plan to be developed.

I. Grantee shall have the right to construct and maintain roads (not to exceed one-half mile in length) and parking lots (not to exceed one acre in size) as necessary for the exercise of the recreational right conveyed in this easement. Provided, however, any roads exceeding one-half mile in length or any parking lots exceeding one acre in size shall be subject to the consent of the Grantor, which consent shall not be unreasonably withheld.

- The Grantor grants to the Grantee and its successors and assigns the right to enter upon and inspect the Protected Property to determine the compliance of the Grantor, its successors or assigns, with this easement. Grantor shall within thirty (30) days after any inspection be provided a copy of any inspection report.

- In response to natural disaster, environmental hazard or threats to human safety, Grantee may take any emergency action necessary to preserve the Protected Property.

DECLARATION OF RESTRICTIONS

The parties agree that the following restrictions shall apply to the Protected Property in perpetuity:

1. No buildings, residences, mobile homes or other structures, fences, signs, billboards or other advertising material shall be constructed or placed in, on, over, under or upon the Protected Property except to the extent provided in the Reserved Rights Section.

2. Except as provided in the Reserved Rights Section, no application of pesticides, including but not limited to insecticides, fungicides, rodenticides and herbicides or any farming, tilling or grazing of cattle or other livestock shall be allowed on the Protected Property without the prior written consent of the Grantee.

3. Except to the extent provided in the Reserved Rights Section, no dumping or storing of ashes, sawdust, noncomposted organic waste, sewage or garbage, scrap material, sediment discharges, oil and its by-products, leached compounds, toxic fumes or any other unsightly or offensive material shall be allowed in, on, over, under or upon the Protected Property.

4. No snowmobiles, dune buggies, motorcycles, all-terrain vehicles or other recreational vehicles shall be operated on the Protected Property by Grantor except as they may be used for inspection, maintenance, fire protection or other emergency needs, and for the furtherance of Grantor's Reserved Rights. No off-road use of automobiles, trucks, vans or other motor vehicles shall be permitted on the Protected Property, except as is necessary for operations as described int eh Reserved Right Section. This restriction does not impair the public access rights described in this easement.

5. No exterior artificial illumination shall be employed on the Protected Property, other than that employed on the date hereof, without prior written consent of the Grantee, except as is reasonably required for enjoyment of the Reserved Rights by the Grantor.

6. No residential, commercial or industrial activities of any kind shall be permitted on or in the Protected Property other than those specifically provided for in the Reserved Rights Section.

7. Except as may be specifically permitted in the Reserved Rights Section or pursuant to Environmental Conservation Law Section 49-0307, no telephone, telegraph, cable television, electric, gas, water or sewer or other utility lines shall be routed over, under, in, on, upon or above the Protected Property without the prior written consent of the Grantee.

APPENDIX 11

Public Comment

The following is a summary of public comments received between September, 2006 and October, 2006 following the release of the Draft Raquette Boreal Unit UMP. The Department received in excess of 350 comments in the form of letters, e-mails, post cards and faxes. In addition, oral comments were received at a public meeting held on September 28, 2006 at the Colton-Pierrepont Central School. While the intent is to us actual excerpts where possible, in many cases it was necessary to condense and paraphrase. In some instances comments were to general for a specific response. Instances where public input pointed out minor factual mistakes, typos, etc. resulted in corrections or changes made directly to the plan.

General Comments regarding the content and format of the plan

1. Numerous general comments were received suggesting that no changes in uses or facilities should be made.

   The goal behind the development of a UMP is to provide for management and use of Forest Preserve that conforms to the guidelines set forth in the APSLMP and is consistent with Department rules and regulations and policies. In order to accomplish this goal it is sometimes necessary to make changes in the way the public currently uses these lands. This may include proposing actions to facilitate, discourage or prohibit certain public uses.

2. Several comments received simply stated " increase in all recreational opportunities on the unit."

   Forest preserve lands cannot withstand unlimited development of facilities and uses. Careful planning is necessary to insure proposals for additional opportunities do not have significant impacts on the natural resources of the area.

Snowmobiling/Draft Comprehensive Snowmobile Plan (CSP)

1. Question the use of snowmobiles in Forest Preserve "protected" by the forever wild clause of the NYS Constitution, wondering how the word "wild" is being interpreted.

   The APSLMP allows snowmobile trails in units classified as Wild Forest. See pages 32-38 of the APSLMP .

2. The DEC should be conducting an analysis of the current environmental impacts of snowmobiling and no expansion of the current system should be undertaken until this analysis is complete and made public. Environmental impacts caused by snowmobiles include air emissions and impacts to the natural soundscape.

Detailed data regarding all potential impacts for any particular recreational activity is beyond the scope of an individual plan. General information on snowmobile impacts can be found in the plan, under the headings, Physical, Biological, and Social. A cushion of snow tends to prevent resource degradation when snowmobile trails are covered, with land resource impacts generally minor.

3. The UMP makes no attempt to correlate projected use to projected environmental impacts. If a new trail is established that link to other areas and as the Adirondacks is linked via snowmobiles to other states, the piecemeal approach makes it impossible to evaluate future use. As the snowmobile system expands, it is only reasonable that future use will increase.

   Projected use figures are difficult to estimate, but the preferred alternatives for snowmobile trails in this plan have been included for informational purposes only. Any selection of a preferred alternative, other than the "no action" alternative which this plan proposes, will require an amendment to this plan. As part of that amendment a detailed analysis of impacts would need to be completed.

4. The proposed bridge over the Raquette River should not be constructed as it will allow access by motor vehicles.

   The proposed bridge violates the APSLMP.

   The proposed bridge would destroy the natural beauty of that part of the Raquette River.

   The proposed bridge will lead to the destruction of the fragile boreal forest habitat.

   The plan does not propose the construction of a bridge over the Raquette River. Potential access alternatives looked at what possibilities might exist should a bridge ever be constructed. These alternatives are based on the Town of Colton's efforts to construct a bridge

5. The DEC commits the error of segmentation, by essentially endorsing construction of a bridge over a Scenic River and of a snowmobile route through the heart of the boreal lowlands, without providing any environmental analysis of these major actions.

   See answer to question 3 above.

6. The plan does not address impacts to private lands associated with snowmobiles.

   See answer to question 3 above.

7. The proposed bridge will be an economic benefit to the surrounding communities and will also make the area more accessible for recreation.

   Undoubtably there could be some economic benefits to improving access to this unit, however, the plan cannot and does not propose a bridge over the river as the State does not own those lands.

Law Enforcement

1. Numerous comments suggested that existing illegal motor vehicle use requires increased Department Law enforcement presence.

   If deemed necessary, the Raquette Boreal Unit will be given a higher priority for routine patrol and enforcement efforts. If these steps do not adequately control inappropriate use, DEC will re-evaluate the need for additional more stringent regulations or further actions.

Motor Vehicles/All Terrain Vehicles (ATVs)

1. Incorporate a description and discussion of the two latest DEC policies on roads and ATV use.

   The plan was amended to include general information about these two policies.

2. This plan does not address the needs of ATV riders and other 4-wheel drive vehicles who are unfairly excluded from accessing state lands, even on seasonal roadways, in spite of their registration fees paid and willingness to participate in discussion on this subject.

   Refer to previous answer regarding DEC policies on roads and ATV use.

3. DEC should be opening more roads for the public's use.

   As there is currently no legal public access to either the Forest Preserve lands east of Carry Falls Reservoir nor the Lassiter Easement, this plan cannot propose the opening of roads where the public cannot legally access.

4. The Carry Falls trail and Bear Brook trail have been heavily damaged due to illegal ATV use. This area needs to be inventoried and plans made for restoration.

   The plan calls for the remediation of trails damaged by illegal use.

5. Do not encourage the use of motor vehicles in the Raquette Boreal Unit.

   Proposing motor vehicle use in the Forest Preserve violates the APSLMP and Article XIV of the State Constitution.

   The DEC is encouraging increased motor vehicle use in the most fragile and least protected biome in the Park, in contradiction to the Forever Wild dictates of the Adirondack Park's guiding documents.

   The DEC's ecological studies and carrying capacity analyses of the area are inadequate to non-existent, and do not justify the proposed motor vehicle developments.

   The proposed motor vehicle access leads to fragmentation of the fragile ecosytem.

   Any motor vehicle use will harm the endangered spruce grouse in the area.

   The Draft UMP provided information on numerous alternatives for providing motor vehicle access to the unit. However, the plan did not choose a preferred alternative nor did it make any proposals which would have resulted in increased motor vehicle access. The proposed final plan maintains access to the unit as it now exists.

6. Keep the Jordan Jeep Trail Stage Coach Road(Carry Falls Trail) open for motor vehicles.

   As there is no current public access to the areas east of Carry Falls Reservoir, the plan does not propose to designate any roads as open for public use. Future proposals, if access is acquired, will be done through an amendment to the plan.

7. Support allowing motor vehicle use on existing roads.

   See previous answer.

Camping

1. Support efforts to negotiate a camping use agreement along the shores of Carry Falls Reservoir. Camping on the beaches is a pleasant, low impact experience that should be preserved.

   Support the proposal to designate campsites along Carry Falls Reservoir.

   There does not appear to be any maps showing the locations of proposed primitive tent sites or a disabled-accessible site. Other UMPs have shown such information.

   The fee owner of the lands surrounding the reservoir does not wish to promote camping on the beaches. The plan proposes to designate several primitive tent sites on Forest Preserve lands adjacent to the reservoir, however the locations of these sites will be chosen at a future date in consultation with APA staff.

Fisheries

1. The UMP is silent on the matter of mercury contamination in fish in the Carry falls Reservoir and whether or not the presence of mercury has any implications regarding future stocking efforts. It is noted that there are currently no plans or pressure for stocking the reservoir, but that could change in the future. It seems that any water body that is the subject of a fish consumption advisory should be acknowledged and the pollution source explained. There should also be a continuing effort to monitor mercury levels in the reservoir.

   Language has been added to the plan regarding mercury contamination.

Other comments

1. Although the SLMP calls for reintroduction of extirpated species when feasible, nothing is said here about trying to fulfill this requirement.

   Reintroduction of extirpated species would likely not be limited to any single Forest Preserve unit. Rather, ecological and sociological factors would be considered over a larger scale to determine the feasibility of any reintroduction effort.

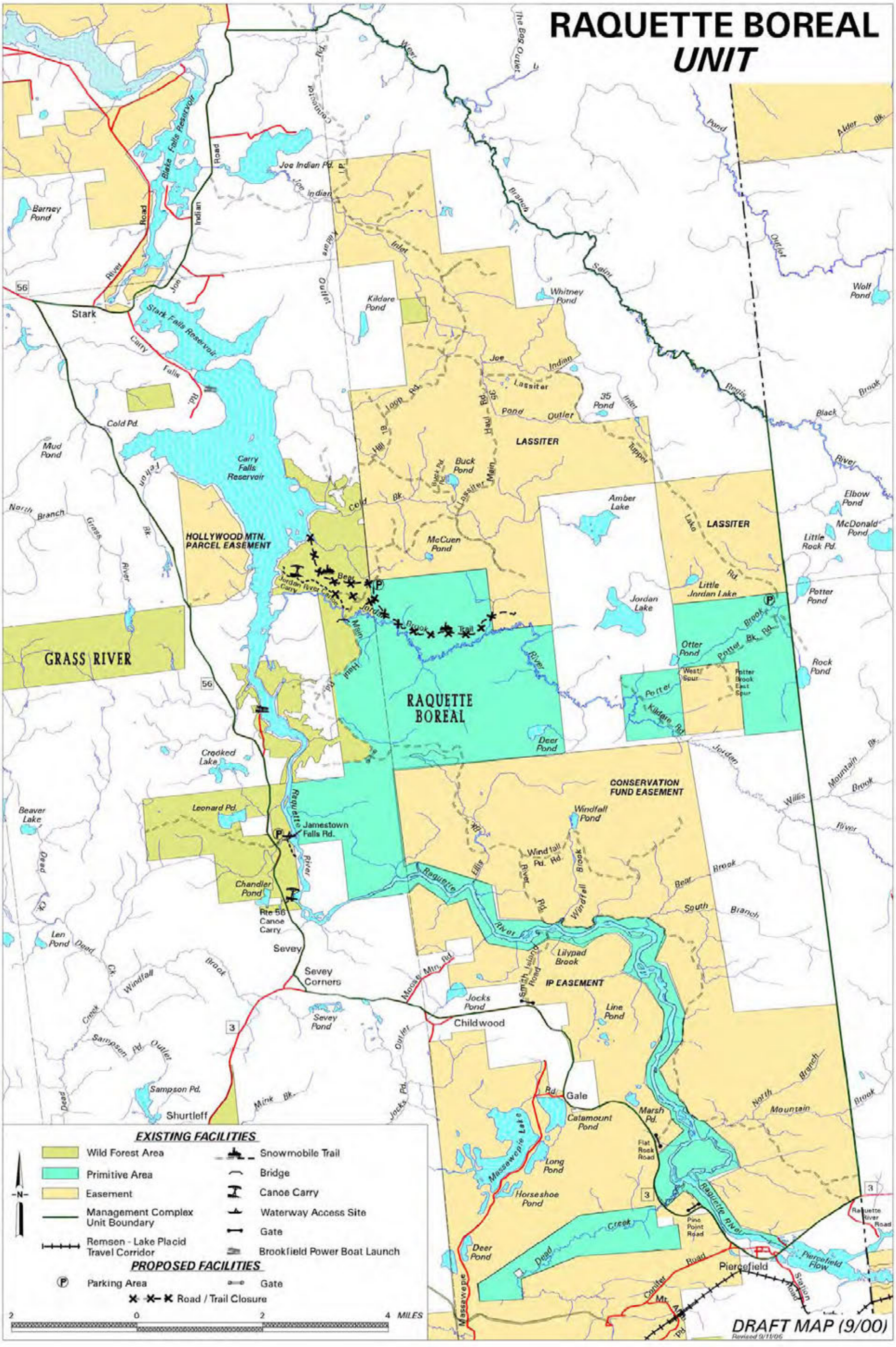
2. The primitive area classification, in particular, should be extended eastward as much as possible to include the entire Jordan River drainage up until the mouth of the Jordan River where it enters Carry Falls Reservoir.

Classification and reclassification of state lands is undertaken by the Adirondack Park Agency.

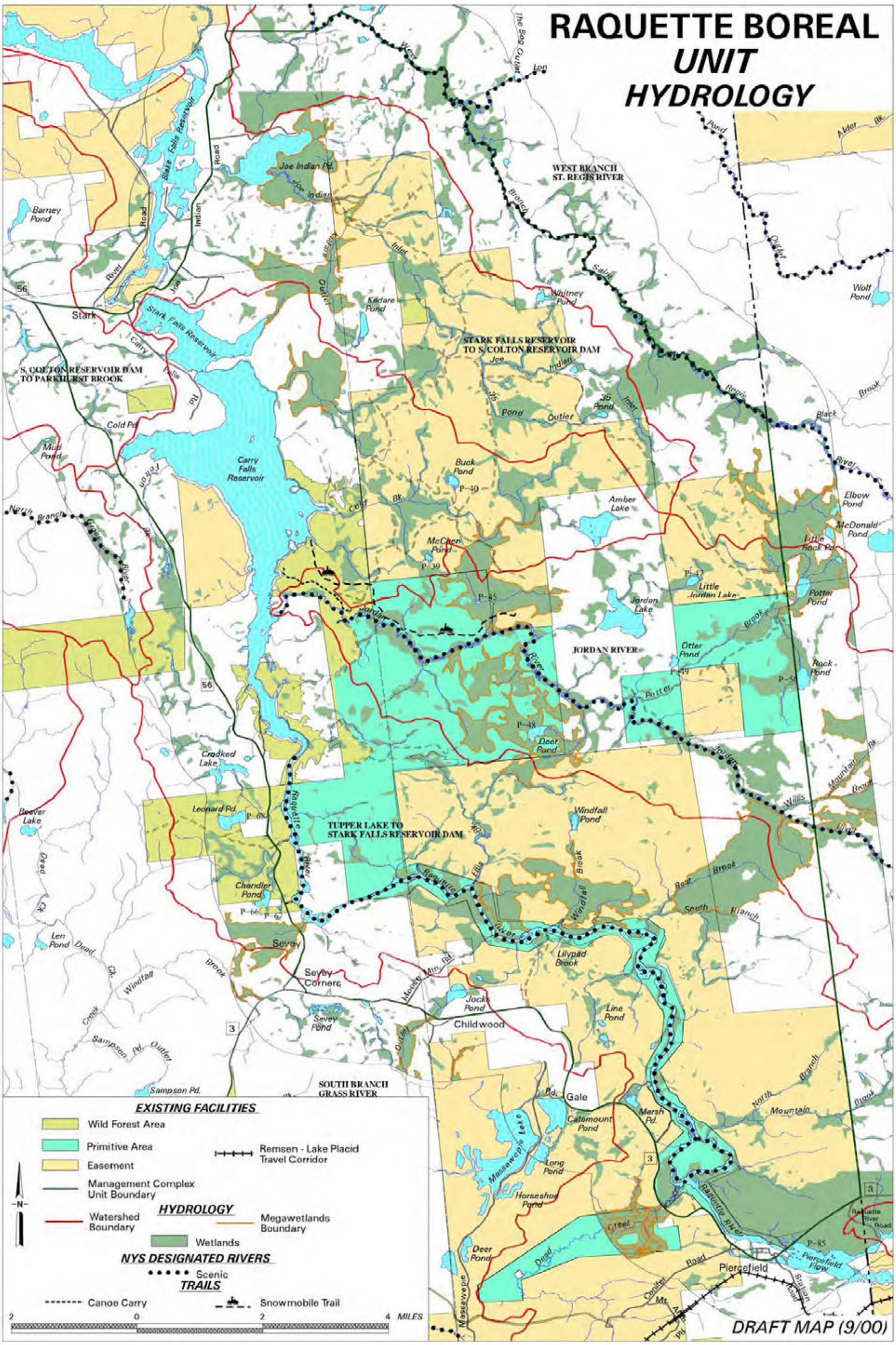
APPENDIX 12

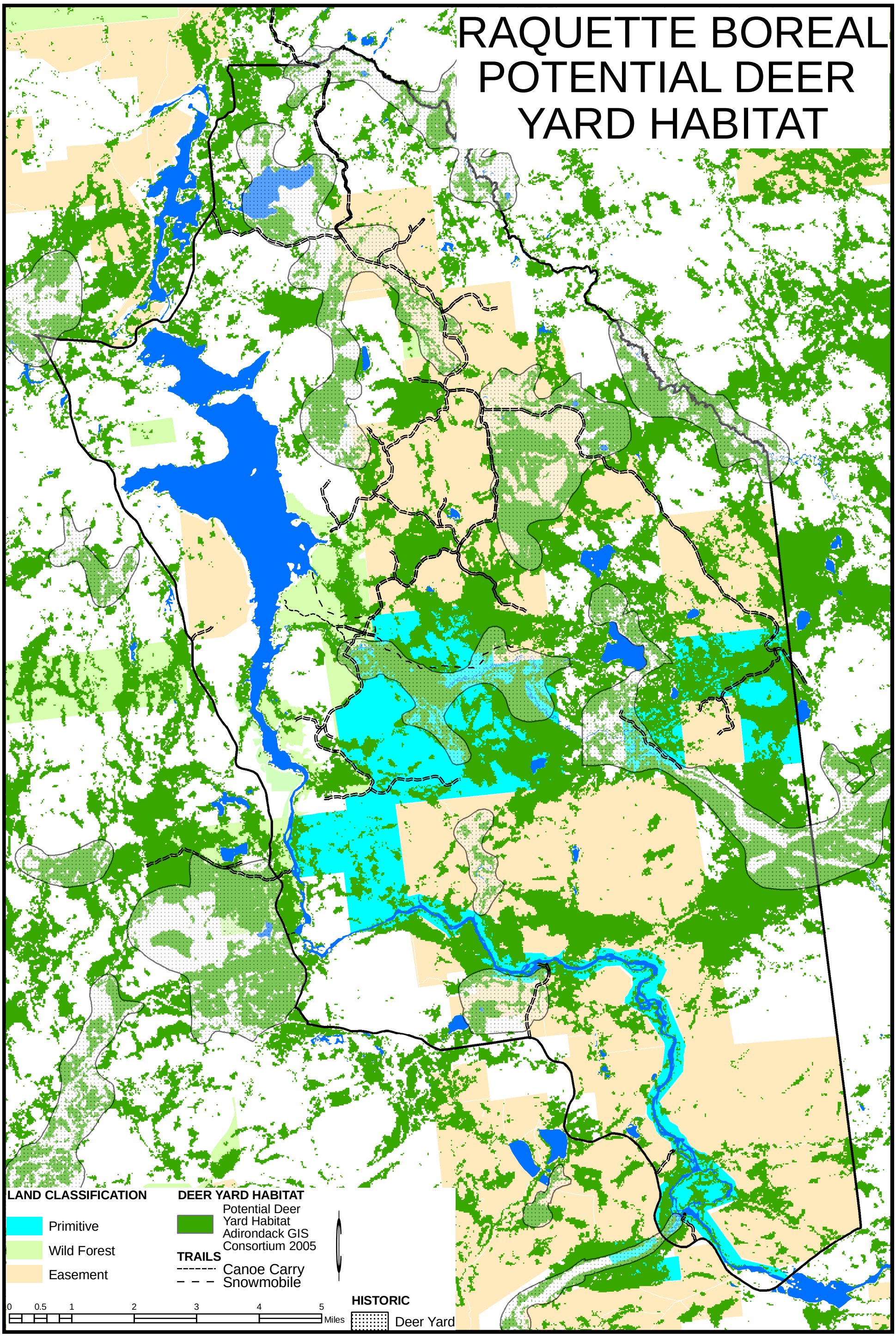
Unit Maps

RAQUETTE BOREAL *UNIT*



RAQUETTE BOREAL *UNIT* *HYDROLOGY*




RAQUETTE BOREAL
POTENTIAL DEER
YARD HABITAT
LAND CLASSIFICATION
Primitive
Wild Forest
Easement
DEER YARD HABITAT
Potential Deer
Yard Habitat
Adirondack GIS
Consortium 2005
TRAILS
Canoe Carry
Snowmobile
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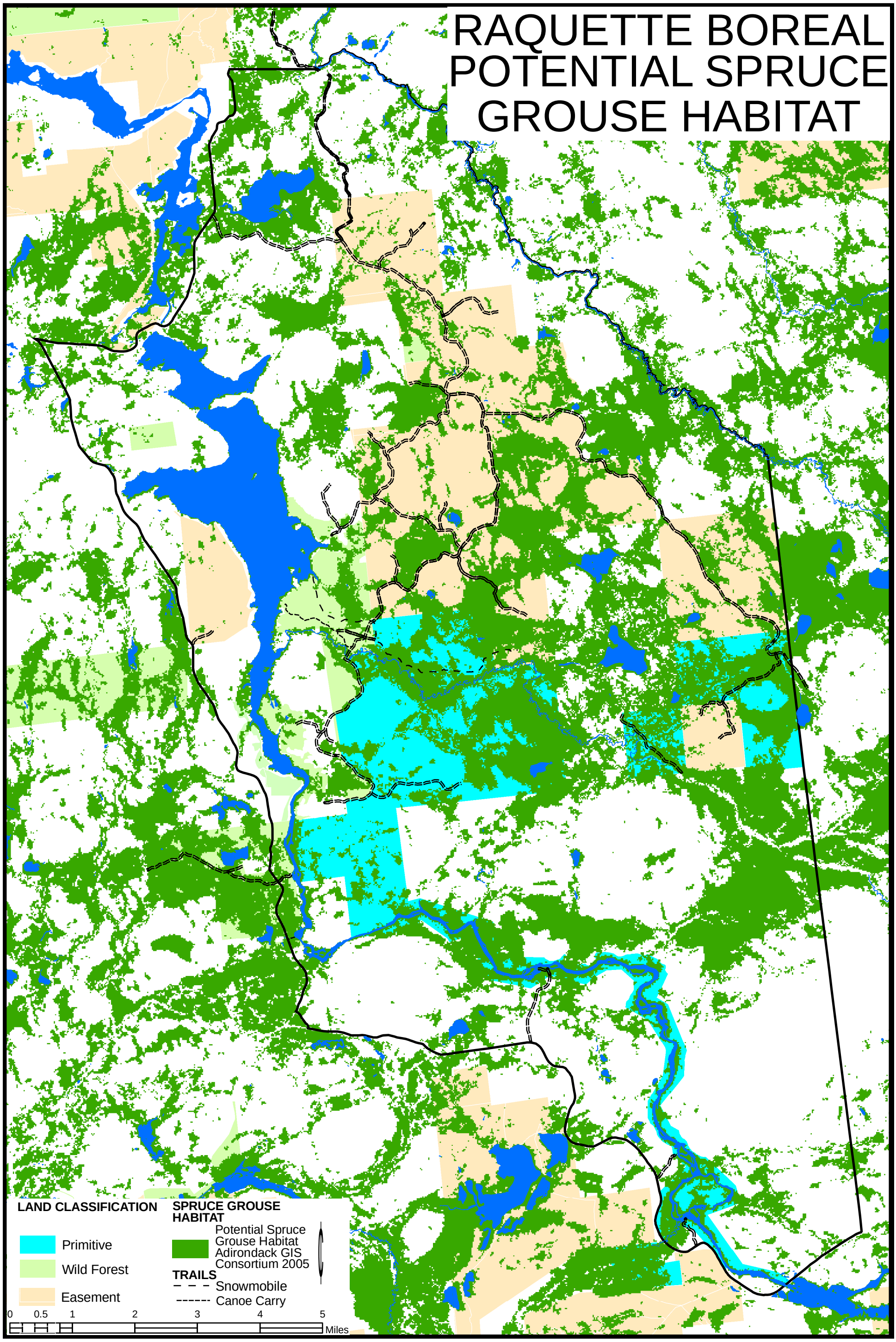
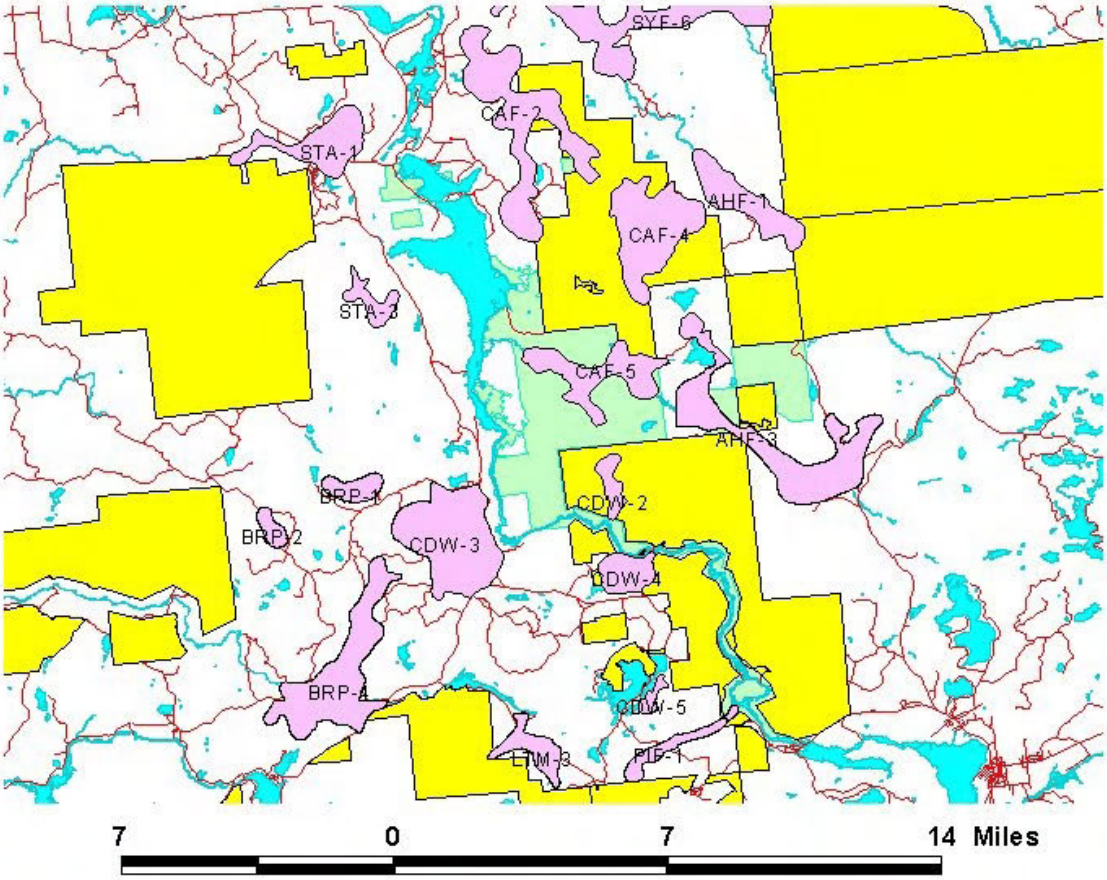
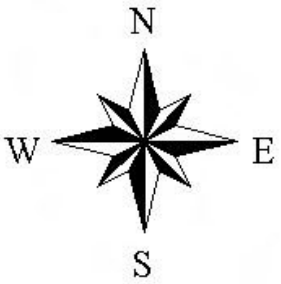
0.5
1
2
3
4
5
Miles
HISTORIC
Deer Yard


RAQUETTE BOREAL
POTENTIAL SPRUCE
GROUSE HABITAT
LAND CLASSIFICATION
Primitive
Wild Forest
Easement
SPRUCE GROUSE HABITAT
Potential Spruce Grouse Habitat Adirondack GIS Consortium 2005
TRAILS
Snowmobile
Canoe Carry
0
0.5
1
2
3
4
5
Miles

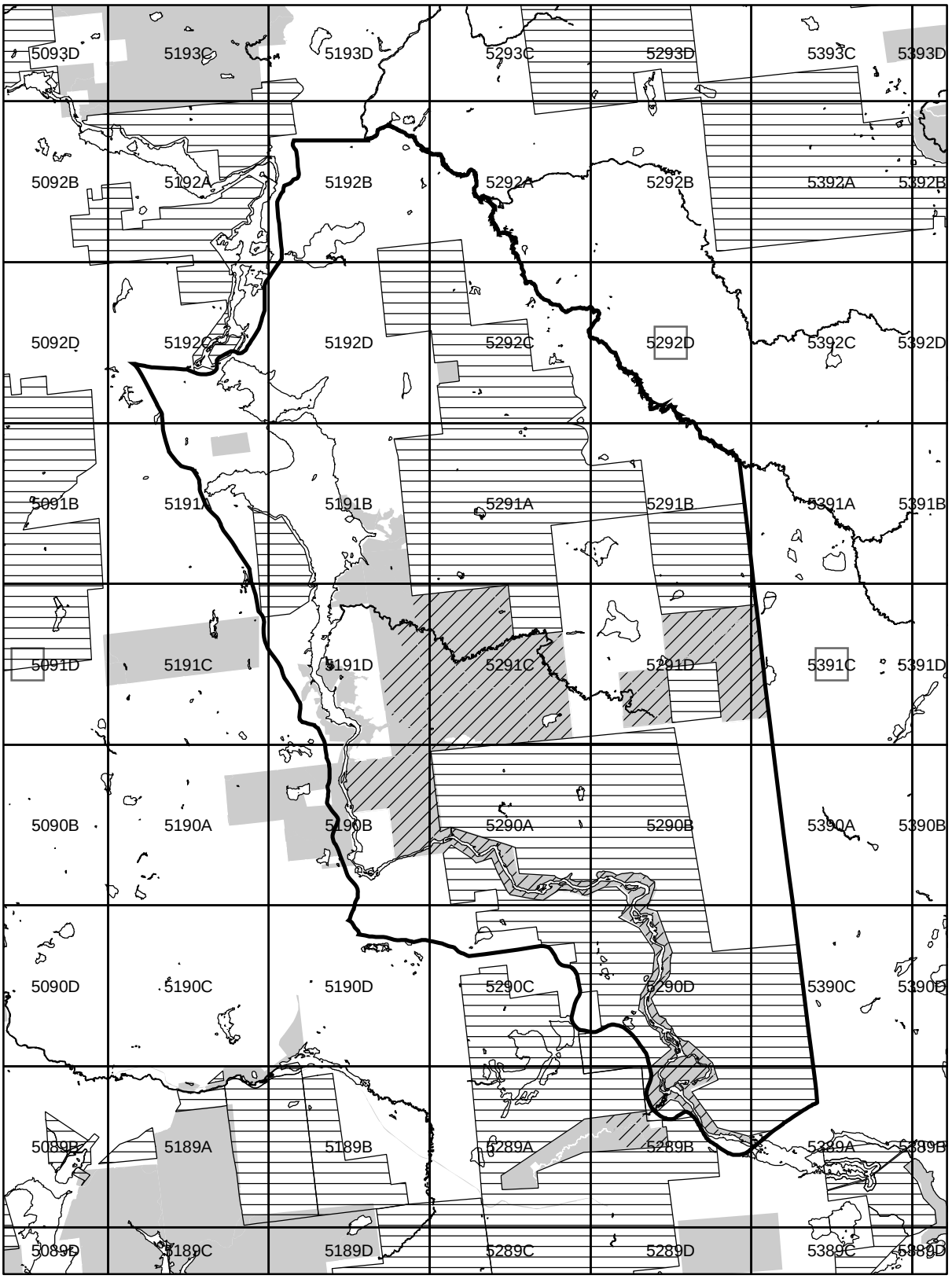
Raquette Boreal Unit
Historic Deer Yards



historic deeryards
easement lands
Roads
Water
Island
Water
Forest Preserve



RAQUETTE BOREAL
BREEDING BIRD ATLAS



Management Complex Unit Boundary

Breeding Waterfowl Survey Plots

Breeding Bird Atlas Block

0 1 2 4 6 8 Miles

LAND CLASSIFICATION

Primitive

Wild Forest

Easement

©