Division of Lands & Forests | Bureau of State Land Management

UPPER SALMON RIVER

UNIT MANAGEMENT PLAN

FINAL

Towns of Florence, Orwell, Osceola & Redfield
Counties of Lewis, Oneida & Oswego

April 2014

NYS Department of Environmental Conservation
Region 7 – Cortland Office
1285 Fisher Avenue
Cortland, NY 13045

Upper Salmon River Unit Management Plan

A Management Unit Consisting of five State Forests, one Fisherman Access site, Conservation Easement Lands and pending acquisition of lands from National Grid, located in Eastern Oswego and Southwestern Lewis Counties

Prepared by the Upper Salmon River Unit Management Planning Team:
Andy Blum, Forester 1
Dan Sawchuck, Forester 1

Additional Information and Review Provided by:
Linda Collart, Mineral Resources Specialist
Jonathan Holbein, Assistant Land Surveyor 3
Scott Jackson, Forest Ranger 1
Scott Prindel, Aquatic Biologist 1
Mike Putnam, Wildlife Biologist 1
Thomas Swerdan, Conservation Operations Supervisor 3

New York State Department of Environmental Conservation
1285 Fisher Avenue
Cortland, New York 13045
(607) 753-3095 extension 217

I. PREFACE

The Department of Environmental Conservation conducts management planning on state lands to maintain **ecosystems** and provide a wide array of benefits for current and future generations. The Upper Salmon River Unit Management Plan addresses future management of Salmon River, Hall Island, Battle Hill, West Osceola, and O'Hara State Forests. This plan is the basis for supporting a multiple-use goal through the implementation of specific objectives and management strategies. Management will ensure the sustainability, **biological diversity** and protection of the Unit's ecosystems and optimize the many benefits that these State lands provide. The multiple-use goal will be accomplished through the applied integration of compatible and sound land management practices.

It is the policy of the Department to manage state lands for multiple benefits to serve the people of New York State. This Unit Management Plan is the first step in carrying out that policy. This plan has been developed to address management activities on the Upper Salmon River Unit for the next twenty years, with a review due in ten years. Some management recommendations may extend beyond the twenty-year period. Factors such as budget challenges, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

The Upper Salmon River Unit Management Plan is based on a long-range vision for the management of this area. Specific goals and objectives to support that vision are based on the rapidly evolving principles and technologies of **ecosystem management**, balanced with the increased demands for public use.

This Unit management plan is designed to implement DECs statewide Strategic Plan for State Forest Management (SPSFM). Management actions are designed to meet local needs while supporting statewide and eco-regional goals and objectives.

The SPSFM is the statewide master document and Generic Environmental Impact Statement (GEIS) that guides the careful management of natural and recreational resources on State Forests. The plan aligns future management with principles of **landscape ecology**, ecosystem management, **multiple use** management and the latest research and science available at this time. It provides a foundation for the development of Unit Management Plans. The SPSFM divides the State into 80 geographic "units," composed of DEC administered State Forests that are adjacent and similar to one another. For more information on management planning, see SPSFM page 21 at http://www.dec.ny.gov/lands/64567.html.

Article 9, Titles 5 and 7, of the Environmental Conservation Law authorize the Department of Environmental Conservation to manage lands acquired outside the Adirondack and Catskill Parks. Management, as defined by these laws, includes **watershed** protection, the production of timber and other forest products, recreation and kindred purposes. The Strategic Plan for State Forest Management provides direction and a framework for meeting this legal mandate.

In 2000, New York State DEC-Bureau of State Land Management received Forest Stewardship Council® (FSC®) certification under an independent audit conducted by the National Wildlife Federation - SmartWood Program. This certification included 720,000 acres of State Forests in DEC Regions 3 through 9 managed for water quality protection, recreation, wildlife habitat, timber and mineral resources (multiple-use). To become certified, the Department had to meet more than 75 rigorous criteria established by FSC. Meeting these criteria established a benchmark for forests managed for long-term ecological, social and economic health. The original certification and contract was for five years.

By 2005 the original audit contract with the SmartWood Program expired. Recognizing the importance and the value of dual certification, the Bureau sought bids from prospective auditing firms to reassess the Bureaus State Forest management system to the two most internationally accepted standards - FSC and the Sustainable Forestry Initiative® (SFI®) program. However, contract delays and funding shortfalls slowed the Departments ability to award a new agreement until early 2007.

Following the signed contract with NSF-International Strategic Registrations and Scientific Certification Systems, the Department was again audited for dual certification against FSC and additionally the SFI program standards on over 762,000 acres of State Forests in Regions 3 through 9. This independent audit of State Forests was conducted by these auditing firms from May until July 2007 with dual certification awarded in January 2008.

State Forests continue to maintain certification under the most current FSC and SFI standards. Forest products derived from wood harvested off State Forests from this point forward may now be labeled as “certified” through chain-of-custody certificates. Forest certified labeling on wood products assure consumers that the raw material was harvested from well-managed forests.

The Department is part of a growing number of public, industrial and private forest land owners throughout the United States and the world whose forests are certified as sustainably managed. The Department’s State Forests can also be counted as part a growing number of working forest land in New York that is *third-party certified* as well managed to protect habitat, cultural resources, water, recreation, and economic values now and for future generations.

The mark of responsible forestry

FSC® C002027

II. VISION STATEMENT

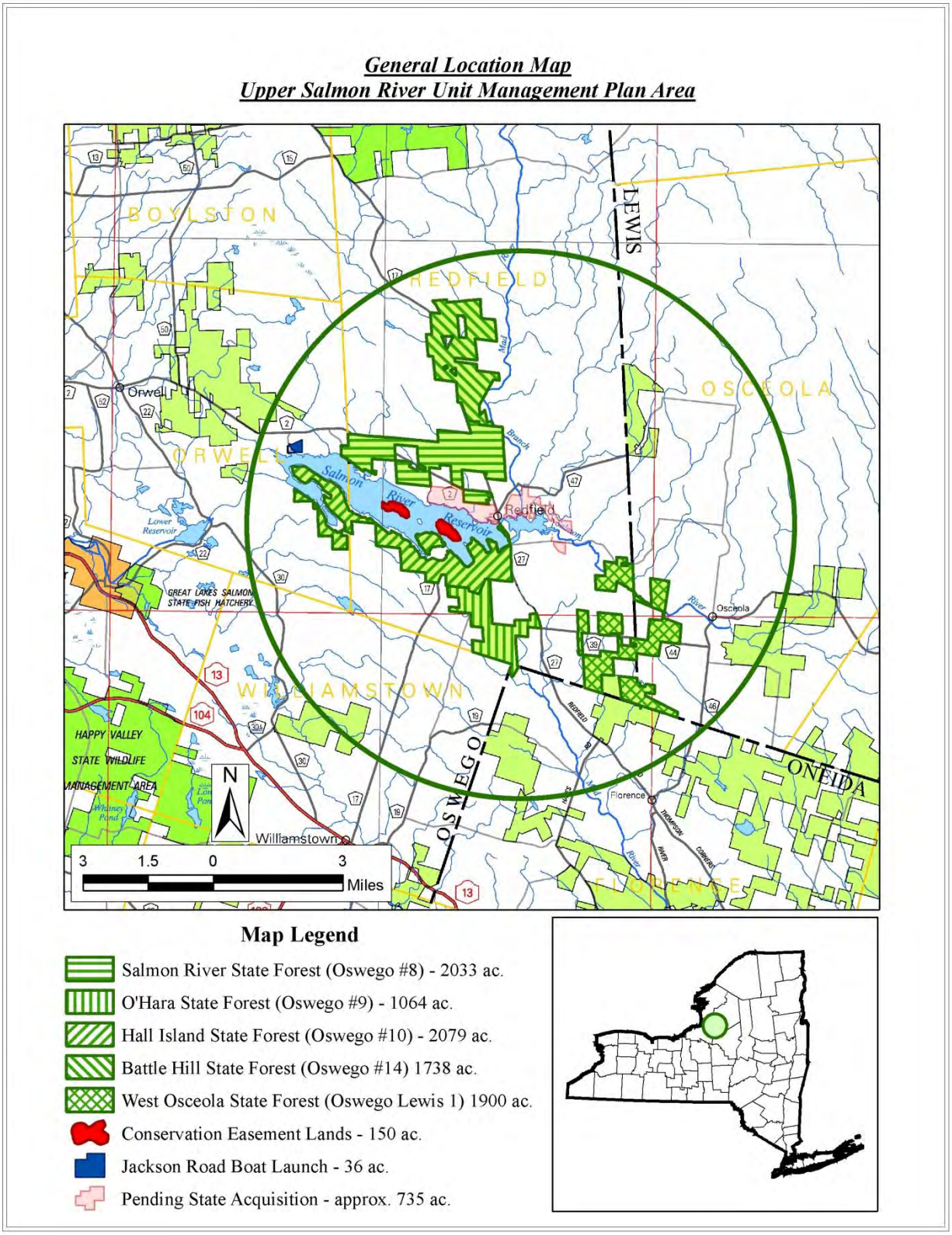
The Upper Salmon River Unit will be managed to maintain and enhance ecosystem health, **biodiversity**, and sustainability while providing environmental, social, and economic benefits for the people of New York State.

* highlighted (**bold**) terms are defined in the glossary.

III. TABLE OF CONTENTS

Contents

Map of the Upper Salmon River Unit



IV. WHAT IS A UNIT MANAGEMENT PLAN?

A Unit Management Plan (UMP) contains an assessment of the natural and physical resources on the Unit and considers the **landscape** conditions in the surrounding geographic area. The UMP guides the Department's activities on the Unit for a ten-year period, although a number of goals and objectives in the plan focus on a much longer time period. Each plan addresses specific objectives and actions for public use and **ecosystem management**. For a more detailed discussion of the Unit Management Planning Process please refer to the Strategic Plan for State Forest Management, Chapter 1, Management Planning Overview, page 22.

V. WHO WRITES THE UNIT MANAGEMENT PLAN?

State Forest UMP's are written by the Division of Lands and Forests with input from the Division of Fish, Wildlife and Marine Resources, the Division of Operations, the Division of Mineral Resources, the Division of Forest Protection and Fire Management and the NY Natural Heritage Program. A description of responsibilities is listed below. Additional information can be found on the Department's website.

Division of Lands and Forests **-** is responsible for the stewardship, management, protection and recreational use of **State Forest** lands, the care of the people who use these lands and the acquisition of additional lands to conserve unique and significant resources. The Department also provides forestry leadership by providing technical assistance to private forest landowners and the forest products industry.

Division of Fish, Wildlife, and Marine Resources **-** serves the public by using their collective skills to describe, understand, manage and perpetuate a healthy and diverse assemblage of fish, wildlife and ecosystems.

Division of Operations **-** provides technical services, facilities management and maintenance of physical assets to insure effective and efficient operation of the Department and safe public use of Department lands and facilities.

Division of Mineral Resources **-** is responsible for ensuring the environmentally sound, economic development of New York's non-renewable energy and mineral resources for the benefit of current and future generations.

Division of Forest Protection and Fire Management **-** is responsible for the preservation, protection, enhancement of the state's forest resources and the safety and well-being of the public using these resources.

The New York Natural Heritage Program **-** is a partnership between the NYSDEC and The Nature Conservancy. They facilitate conservation of rare animals, rare plants, and natural ecosystems, which are commonly referred to as "natural communities."

VI. DEC's MANAGEMENT APPROACH AND GOAL

Ecosystem Management Approach

State Forests on this Unit will be managed using an ecosystem management approach which will holistically integrate principles of landscape ecology and multiple use management to promote habitat biodiversity, while enhancing the overall health and resiliency of the State Forests Ecosystem management is a process that considers the total environment - including all non-living and living components; from soil micro-organisms to large mammals, their complex interrelationships and habitat requirements and all social, cultural, and economic factors. For more information on ecosystem management, see the **Strategic Plan for State Forest Management** (SPSFM) page 39 at http://www.dec.ny.gov/lands/64567.html.

Landscape ecology seeks to improve landscape conditions, taking into account the existing habitats and land cover throughout the planning unit, including private lands

Multiple-use management

DEC will seek to simultaneously provide many resource values on the Unit such as, fish and wildlife, wood products, recreation, **aesthetics**, minerals, watershed protection, and historic or scientific values.

Landscape Ecology

The guiding principle of multiple use management on the Unit will be to provide a wide diversity of habitats that naturally occur within New York, while ensuring the protection of rare, endangered and **threatened species** and perpetuation of highly ranked unique natural communities. The actions included in this Plan have been developed following an analysis of habitat needs and overall landscape conditions within the planning Unit (i.e. the geographical area surrounding and including the State Forests) the larger **ecoregion** and New York State.

Ecosystem Management Strategies

The following strategies are the tools at DEC's disposal, which will be carefully employed to practice landscape ecology and multiple-use management on the Unit. The management strategy will affect species composition and habitat in both the short and long term. For more information on these management strategies, please see SPSFM page 81 at http://www.dec.ny.gov/lands/64567.html.

Passive Management

DEC foresters will employ passive management strategies through the designation of natural and **protection area**s, and **buffer strips** around those areas, such as along streams, ponds and other wetlands, where activity is limited.

Silviculture (Active Management)

DEC foresters will practice **silviculture**; the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands, in an effort to promote

biodiversity and produce sustainable forest products. There are two fundamental **silvicultural** systems which can mimic the tree canopy openings and **disturbances** that occur naturally in all forests; **even-aged management** and **uneven aged management**. Each system favors a different set of tree **species** and **age class**. In general, even-aged management includes creating wide openings for large groups of trees that require full sunlight to regenerate and grow together as a **cohort**, while **uneven-aged** management includes creating minimal openings for individual trees or small groups of trees that develop in the shade but need extra room to grow to their full potential.

VII. INFORMATION ABOUT THE LANDSCAPE SURROUNDING THE UNIT

A. General Observations

This Unit is located in the center of the Salmon River Watershed on the western edge of the Tug Hill region in the Northeast portion of Oswego County and south western corner of Lewis County. The area is primarily forested with the exception of minor open lands found along the town and county roadways. The Unit could be characterized as being located at the foothill of the Tug Hill in the transition zone between the more open agricultural lands in the Lake Ontario plains and the heavily forested area of the Tug Hill Plateau.

B. Landscape Conditions & Trends

Current Landscape Conditions

To determine the current landscape conditions, an area having a ten mile radius from the Unit was selected for analysis. The Unit comprises approximately 5% of the total area inside the ten mile boundary of the landscape. The analysis of the surrounding landscape was done using the National Land Cover Multi-Resolution Land Characteristics, *USGS. 2001* data set from the DEC Master Habitat Database (MHDB). This data was analyzed using Arc **Geographic Information System** (**GIS**) software. Table 1. shows the Land Use and Land Cover acres and percentage for the Landscape Surrounding the Unit compared to Surrounding Ecoregion.

Observations from the landscape analysis are as follows:

A. The landscape is in the center of the Tug Hill region. This area is part of the larger Northern Appalachian – Acadian **Ecoregion,** which includes the Tug Hill as well as the Adirondack region of New York State. The landscape is heavily forested consisting of 85% forest cover. This is one of the most forested regions of New York State. The statewide average is 62% (Alerich & Drake, 1995).

B. Only 11.3% of the landscape is in agricultural or open land cover. The statewide average is 18%, (Alerich & Drake, 1995). The open lands are almost entirely located on private land away from the Unit, to the west and south, in the towns of Orwell, Williamstown and Florence.

C. Approximately 6.1% of the landscape is in shrub/scrub or **seedling**/ **sapling** vegetation. This is greater than that in the surrounding ecoregion. This **cover type** is primarily in the south and west areas of the landscape.

D. Less than 1% of the landscape is in developed residential/ commercial land cover.

E. There are no known **old growth** forest areas in the landscape.

F. Approximately 18% of the landscape area consists of lands managed by DEC.

G. The presence of agricultural lands away from the Unit and the relatively low percentage of developed and agricultural lands combined mean that the forests in the vicinity of the Unit are largely **unfragmented**. The degree of forest **fragmentation** dramatically increases to the south and west, outside the landscape boundary.

H. Beyond the immediate vicinity of areas close to Salmon River Reservoir, landscape areas north of the reservoir have few permanent residents. There are relatively large areas without public roads in this portion of the landscape.

I. Hundreds of open and **forested wetlands** exist throughout the landscape.

J. While **parcelization** (and the often associated residential development) is evident across the landscape, near the Unit it is most apparent in the areas of Salmon Run Road and CCC Drive, Noble Shores Drive and in the village of Redfield.

All of these observations indicate that the landscape near the Unit, except for the limited developed areas noted in item J. above, has a high degree of naturalness and likely has a very good representation of **native species** diversity. The landscape is dominated by mid-aged to **mature forest** cover with little **early successional**, seedling/ sapling habitat.

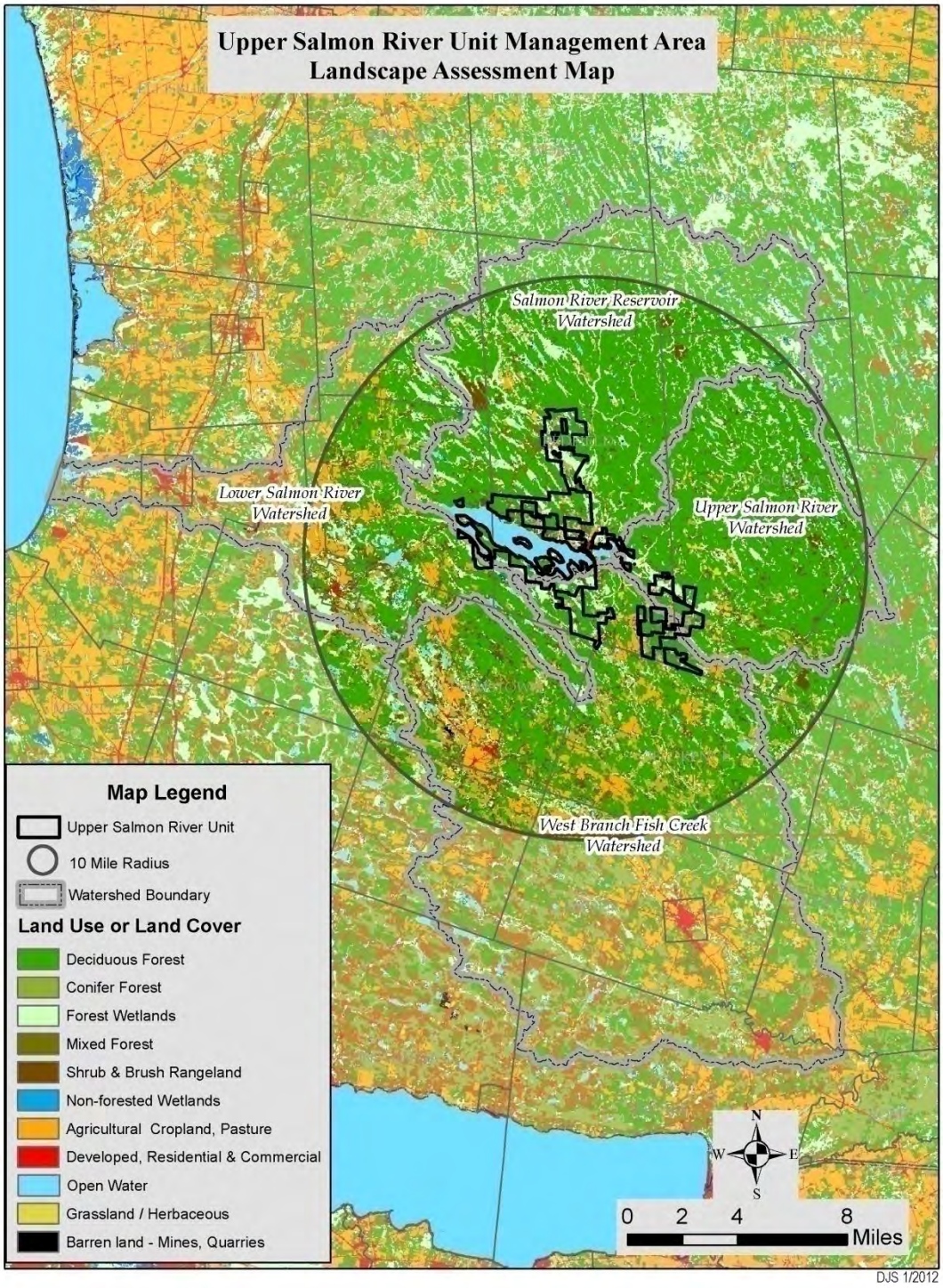
Table 1. Land Use and Land Cover for the Landscape Surrounding the Unit compared to Surrounding Ecoregion.

	10Mile Radius Landscape around Unit		**Northern Appalachian – Acadian Ecoregion** (6,684,826 acres)	
Land Use or Land Cover	Acres	% of Unit Landscape	Current % of Ecoregion	20 Year Forecast, Percent Change
Deciduous Forest	127,040	60.1	48.2	+ 2.1
Conifer Forest	18,546	8.8	19.6	- 2.6
Forest Wetland	27,656	13.1	11.4	+ 0.1
Mixed Forest	6,136	2.9	9.2	- 0.2
Shrub & Brush Rangeland (seedling/sapling)	12,894	6.1	2.4	+ 0.6
Non-forested Wetland	1,086	0.5	0.6	- <0.1
Agricultural – Cropland, pasture	9,108	4.3	2.1	- 0.6
Developed, residential and commercial	1,279	0.6	1.5	+ 0.5
Open Water	5,743	2.7	4.4	+ < 0.1
Grass/ herbaceous	1,841	0.9	0.5	- < 0.1
Barren land – mines quarries, gravel pits	91	<0.1	0.1	+ < 0.1
	211,420	100	100	

Source: Landscape data for the Unit was derived from National Land Cover Multi-Resolution Land Characteristics data set. For additional information about this data set see: http://www.mrlc.gov/ . Northern Appalachian – Acadian Ecoregion data is from NYS Strategic Plan for State Forest Management (SPSFM).

Additional information about land cover types in the Salmon River watershed can be found in Salmon River Watershed Natural Resource Assessment, *G. McGee, 2008*. For additional information on the Northern Appalachian – Acadian Ecoregion, see Chapter 2, p. 67 in NYS Strategic Plan for State Forest Management (SPSFM).

Land Cover Map



Landscape Trends

One of the most significant historical trends in the landscape is that areas of early successional vegetation have declined as abandoned farm lands have matured into forest cover. This loss of agricultural land is expected to continue in the future as shown in Table 1. The Ecoregion forecast predicts a loss of agricultural land, but an approximately equal shift of an increase in shrub-brush land cover. This will provide a temporary increase in habitat for those species that can use this cover type. However, these lands will eventually grow into forest cover, losing their ability to support early successional associated species. Development of early successional cover types has been identified as a need in the SPSFM to promote habitat diversity for the many declining number of bird and other species dependent upon **early successional habitat** conditions (See Species of Greatest Conservation Need (SGCN) in the Wildlife section).

Forest management can provide early-successional habitat through the implementation of even-aged forest **regeneration** practices. However, private non-industrial forest lands of the region are typically treated with partial harvests leaving roughly similar **residual** stand structures of mid-aged forests after the harvest. These privately owned forests are also usually harvested before they reach the late successional stage of development.

Late successional forests are those areas predominated by forests with older and larger trees, having more structural complexity than **mature forests** and being either in the process of developing or having developed old growth characteristics; they may exhibit evidence of past human or natural disturbances; these forests may exist as entire stands or as smaller patches within younger stands. While no wildlife species on the Unit are exclusively dependent upon old forest conditions for habitat, many are often associated with these types of areas. Late successional forests are also important because they may provide superior habitat quality for some species even though they are found in other forest conditions. State lands have the unique opportunity to provide late successional forest conditions on the landscape because of their long term continuity of ownership. In contrast, private lands in New York State have a relatively short average length of ownership resulting in little opportunity for the long term consistency of management planning needed to allow forests to reach the late successional stage of development. Late successional forests are adequately provided in the Northern Appalachian - Acadian Ecoregion by Adirondack Forest Preserve lands, however, there is likely little of this type in the landscape surrounding the Unit.

The other significant trend is parcelization. Parcelization is the process of subdividing large parcels of land and selling them to separate individuals. Parcelization frequently occurs near State lands, as these areas are deemed desirable for recreation properties. Some of the impacts of parcelization include the increased need for road maintenance or other services such as electricity in remote areas as new landowners build residences on their parcels. The forest products industry is also impacted. As large parcels of forested land are split into smaller parcels with many different owners, it becomes difficult or impossible to profitably engage in timber management. Germain et.al., (2006) document the decline in average parcel size of nonindustrial private forest in Oneida County dropping from 36 to 24 acres between 1975 and 2000. The minimum threshold parcel size for profitability is considered between 10-25 acres

(Germain et.al. 2006). While much of the non-industrial private forest land remains above this threshold, parcelization of private lands continues to reduce the acreage of working forest that is available to support New York's forest product industries.

VIII. INFORMATION ON THE UNIT

A. Geographical Information

Location

The Upper Salmon River Management Unit is located in the Towns of Orwell and Redfield in Oswego County, the Town of Osceola in Lewis County and a small portion in the Town of Florence in Oneida County. The Unit is located centrally around the hamlet of Redfield, approximately 15 miles east of the village of Pulaski, 15 miles north of the village of Camden, 25 mile west of the village of Boonville, 21 miles southeast of the village of Adams and roughly 30 miles northeast of the city of Syracuse. The majority of the Unit is within the Salmon River watershed, with its waters eventually flowing into Lake Ontario. The most outstanding natural resource features on the Unit are the North and East Branches of the Salmon River and the Salmon River Reservoir.

The Oswego County Highway Routes 2, 17, 27 and 39 provide excellent access to the State Forests in the Unit.

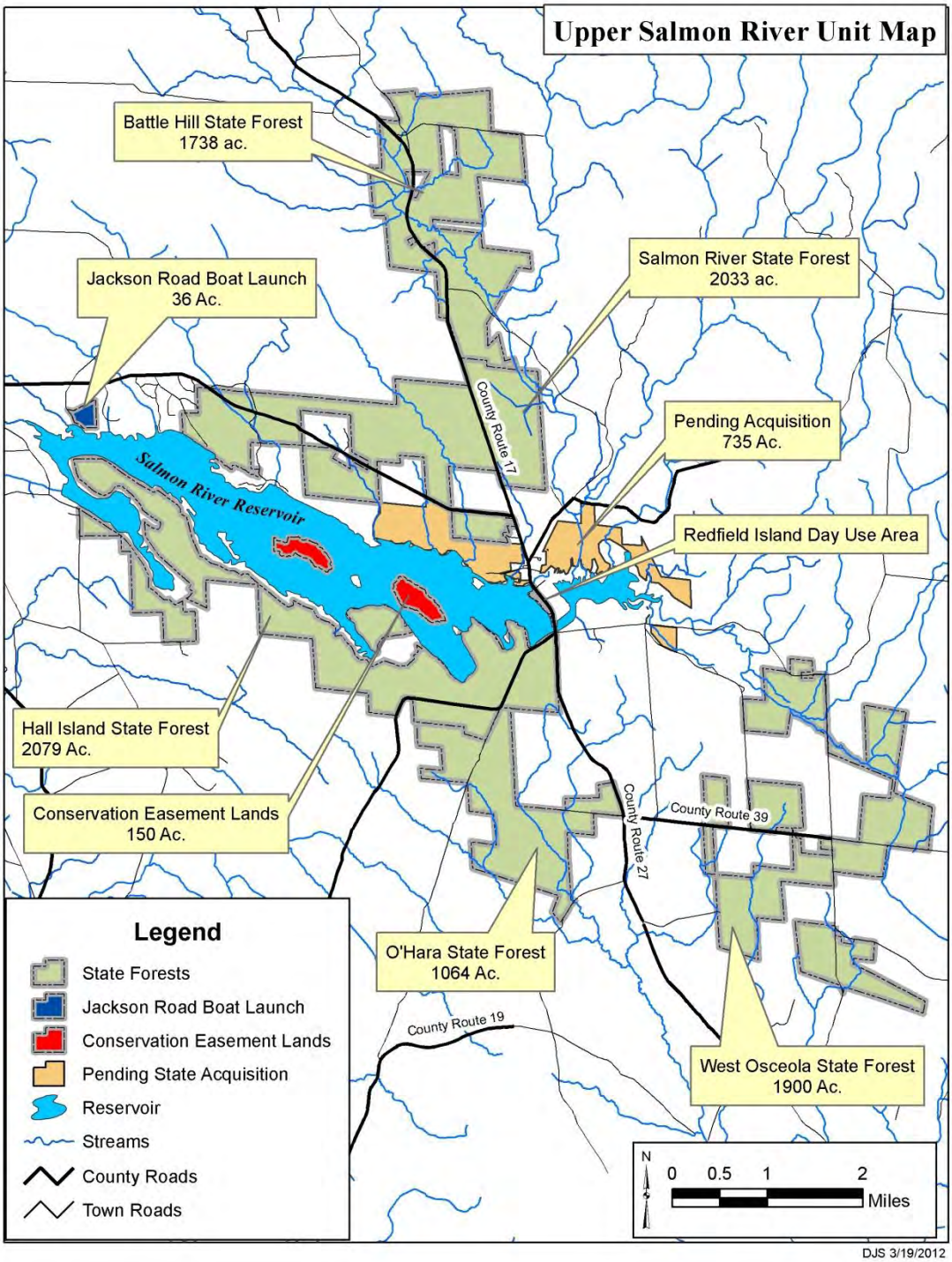
The Unit includes five State Forests, one Fisherman Access Site, Conservation Easement lands and property to be included from a pending acquisition from National Grid Power Company. The total acreage including the pending acquisition is 9,626 acres. This Unit lies within the Tug Hill Transition and Central Tug Hill Ecozone. The Salmon River watershed is also part of the larger Great Lakes watershed which flows northeasterly through the St. Lawrence River to the Atlantic Ocean. Elevation ranges from 940 to 1,300 feet above mean sea level. The lowest elevations are found along the Salmon River reservoir – the highest elevations are found in the northeast corner of Battle Hill State Forest (Oswego #14).

Table 2. State Forests and Properties in the Upper Salmon River Unit Management Plan			
Administrative Name	Common Name	Municipalities	Acres*
Oswego No. 8	Salmon River SF	Oswego County, Towns of Orwell and Redfield.	2,033
Oswego No. 9	O'Hara SF	Oswego and Oneida counties, Towns of Redfield and Florence respectively.	1,064
Oswego No. 10	Hall Island SF	Oswego County, Towns of Orwell and Redfield.	2,079
Oswego No. 14	Battle Hill SF	Oswego County, Town of Redfield.	1,738
Oswego Lewis No. 1	West Osceola SF	Oswego and Lewis Counties, Towns of Redfield and Osceola respectively.	1,900
Conservation Easement Lands	Huckleberry and Burdick Islands	Oswego County, Town of Redfield	150
Fisherman Access	Jackson Road Boat Launch	Oswego County, Town of Orwell	36
National Grid Lands	Pending North Shore Acquisition	Oswego County, Town of Redfield	735
Total Unit Acreage			**9,735**

* Acreages displayed are from deeded surveys and may vary slightly from acreages derived from the GIS.

Presently there is a pending acquisition in progress with the National Grid Power Company that will include lands to be within this Unit. This acquisition is part of a larger settlement for violations of air quality standards by the power company at power plants located in western New York. Management recommendations for this acquisition will be included as part of this plan but will not be implemented until the acquisition is finalized.

Unit Map


Upper Salmon River Unit Map
Battle Hill State Forest
1738 ac.
Jackson Road Boat Launch
36 Ac.
Salmon River State Forest
2033 ac.
Pending Acquisition
735 Ac.
Redfield Island Day Use Area
Salmon River Reservoir
County Route 17
Hall Island State Forest
2079 Ac.
Conservation Easement Lands
150 Ac.
County Route 39
County Route 27
O'Hara State Forest
1064 Ac.
County Route 19
West Osceola State Forest
1900 Ac.
Legend
State Forests
Jackson Road Boat Launch
Conservation Easement Lands
Pending State Acquisition
Reservoir
Streams
County Roads
Town Roads
N
0 0.5 1 2
Miles
DJS 3/19/2012

B. State Forest History

New York State Forests have a rich and extensive history. Starting with pre-historic glaciations, Native American settlement and colonial development through post-agricultural revolution and subsequent **reforestation**, New York's State Forests have gone through many changes throughout history that have ultimately shaped what we enjoy today. For a more in depth history of New York's State Forests, please refer to the Strategic Plan for State Forest Management, Chapter 1, State Forest History, and page 15.

The forest lands outside the Adirondack and Catskill regions owe their present character, in large part, to the impact of pioneer settlement. After the Revolutionary War, increased pressure for land encouraged westward expansion. Up to 91% of woodlands were cleared for cultivation and pasture.

Early farming efforts met with limited success. As the less fertile soils proved unproductive, farms were abandoned and settlement was attempted elsewhere. The stage of natural succession was set and new forests of young saplings reoccupied the ground once cleared.

The State Reforestation Law of 1929 and the Hewitt Amendment of 1931 set forth the legislation that authorized the Conservation Department to acquire land, by gift or by purchase, for reforestation areas. These State Forests, consisting of not less than 500 acres of contiguous land, were to be "forever devoted to reforestation and the establishment and maintenance thereon of forests for watershed protection, the production of timber and for recreation and kindred purposes" (*Article 9, Title 5, Environmental Conservation Law*).

In 1930, forest districts were established and the tasks of land acquisition and reforestation were started. In 1933, the Civilian Conservation Corps (CCC) began. Thousands of young men were assigned to plant millions of trees on the newly acquired State Forests. In addition to tree planting, these men were engaged in road and trail building, erosion control, watershed restoration, forest protection, and other projects.

During the war years of 1941-1945 very little was accomplished on the reforestation areas. Further planning, construction, facility maintenance and similar tasks were curtailed. However, through postwar funding, conservation projects once again received needed attention. The Park and Recreation Land Acquisition Act of 1960 and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of State Forest lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, **forestry**, and recreation.

Today there are more than 750,000 acres of State Forest land throughout New York State. The use of these lands for a wide variety of purposes such as forest products, hiking, skiing, fishing, trapping, and hunting is of tremendous importance economically and to the health and well-being of the people of the State.

C. Local History

Before the arrival of European settlers, human habitation of the Salmon River area was mostly transient. Archaeological evidence indicates presence of Native American temporary encampments for hunting, fishing and other resource gathering activities. Within Oswego County, the only evidence of permanent Native American village sites has been found in the extreme southern region outside the boundaries on the Unit (*Faust, 1954*).

Three of the Iroquois' Six nations laid claim to the lands near the Salmon River: the Onondaga Nation that lived in the Syracuse region to the south, the Cayuga's to the west, and the Oneida's to the east (Clark, 1946). On their home territories they engaged in agriculture, raising corn, beans, squash and other vegetables. The Oswego County lands were their fishing and hunting grounds.

In the summer the Iroquois camped along the Salmon River, where they fished for lake-dwelling Atlantic salmon, as well as a wide variety of other shellfish (Douglas, 1993). In the surrounding forests they hunted for wolves, bear, deer and other wildlife. They made syrup from maple sap. Wild herbs and berries rounded out the Iroquois diet. For example, they brewed leaves of the herbaceous plant Monardia digma, or Oswego tea, to make a tasty beverage which later became popular with American colonists as a substitute for teas taxed by the English. The Iroquois also harvested trees and other plant products for making tools and shelter, though not exploiting them to nearly the extent that latter settlers would. They used bark of elm, basswood, birch and hickory to cover their canoes and houses, to make dishes, barrels and cordage and to tan animal skins (*Faust, 1954*).

The first European settlers came to Oswego County in the early 1600s. In 1615, French General Samuel de Champlain, with a band of Huron Indian warriors, led a raid by canoe across Lake Ontario and by foot along the Salmon River, continuing to Oneida Lake. Although Champlain's war party was conquered by the Iroquois at Oneida Lake, Champlain himself survived, returning north to report on his impressions. Awareness of the area spurred further exploration. By the middle of the century the French had established a Jesuit mission and fur-trading post at Oswego. The Iroquois brought pelts from far and near. They traded primarily beaver furs and deerskins in exchange for guns, gunpowder and iron implements (*Clark, 1946, and Faust, 1954*).

During the second half of the seventeenth century and first half of the eighteenth, French, Dutch, and English fought for control of the area, vying for trade and military alliances with the Native Americans. The Six Nations considered trade with the English to be most profitable; and the majority of the Iroquois gave them their support. Eventually the English gained control over what are now Oswego County Lands (*Faust, 1954*). In the end, alliance with the English did not help the Iroquois.

After the Revolutionary War, the newly established State of New York acquired lands from the remaining Native Americans through a combination of purchases and treaties. The government set out to encourage migration to western and northwestern New York, sending land agents throughout New England to tell of the wonders of this region (*Bentley, 1965*). Large tracts of

lands were conveyed to individuals for development. In the early 1790s, Alexander Macomb purchased nearly 4,000,000 acres of upstate New York, including lands of this Unit. Later this immense parcel was broken up and sold to various investors. By the time settlement of the area first began those lands that lie within the Salmon River **Corridor** were divided into two main tracts: the land to the south of the river was part of the Scriba Patent and to the north was the Boylston tract land. As settlement progressed, the large tracts of land were further subdivided.

The earliest settlers in the Salmon River area made difficult journeys through the wilderness by ox-cart on blazed Indian trails from Rome. They first stopped near the east end of the river, settling in Redfield in 1795. For a while travel remained easiest in the winter when ox-carts could be dragged over snow. Soon the route from Rome was improved and became known as Military road (*Faust, 1954*). Over the next two decades, more people came and a number of settlements grew up farther west along the river and its tributaries. In 1816, Oswego County was formed from parts of Oneida and Onondaga Counties.

The woodlands of the area were dominated by a variety of **hardwoods**, with intermixtures of white pine in dryer soils and hemlock in the lowlands. Toward the Tug Hill Plateau an increasing number of **softwoods** such as white pine, balsam fir, and red spruce were intermixed with the hardwoods. The forests of the Plateau itself were similar to the spruce-fir forests of the Adirondacks (*Cox, 1987*). In his history of the Tug Hill region Harold E. Sampson describes the area as it would have appeared to the early settlers:

*"When the first white settlers began to trickle into the area in the early 1800s, the whole region was virtually buried in verdant, untouched forests. Towering spruce and hemlocks, three to four feet through at the base, and with here and there a **stand** of native pine interspersed, vied with various deciduous trees such as maple, ash, beech, and red birch for space and sunlight." Sampson, 1971, p.65.*

The disappearance of the original forest can be separated into two distinct eras: that of eradication and that of lumbering (Sampson, 1971). To the first settlers the forests were not so much an asset as a hindrance to agriculture and travel. The forests needed to be removed to create fields for crops, pasture for live stock, and transportation routes. Before long lumbering and related industries became essential to the area's continued development starting in the early 1800s. The clearing away of the almost interminable forest lead to an immense lumber and bark business, which continued to be extensive through the early 1900s. The first record of a sawmill being built in the vicinity of Redfield was in 1845 by Seymore Green. This mill was later owned and operated by Mr. Otto in 1859 (*Churchill, 1895*), which possibly could have been located on the present Battle Hill State Forest. Around 1855 two large tanneries were built in Redfield Square due to the large amount of lumbering occurring in the area. The tannery industry remained active until a few years before 1892 when the last tannery was set on fire on the night of Cleveland's election. In a business sense the town of Redfield saw its greatest activity during the period when these tanneries were in operation and the various mills were producing great quantities of lumber (History of Redfield, 1895, pg 7.). During the first half of the twentieth century most of the last remaining stands of virgin forests were cleared. Only the

area just to the west of the Mad River remained uncut until after World War II, when George Colvin of Osceola lumbered this area taking both hardwoods and softwoods. Timber harvests largely of second growth northern hardwoods, has continued through the present, albeit at a much lesser intensity than during the "boom" years of the late nineteenth century. In the 1960s, hardwood pulp which was previous thought of little value began to be harvested in the Tug Hill region (Sampson, 1971).

Like the lumbering, agriculture had also become a much less significant part of the area's economy. The river valleys remained fertile, but upper elevations proved too rocky, with winters too long and severe for farming. In 1910 some farmers were already beginning to let some of their land revert back to scrub (Wellman, 1988). In 1913, the local power company, known then as Salmon River Power Company built a dam, which flooded 4,500 acres of Redfield's most fertile farmland. Surrounding farms and lands were also being abandoned for more fertile ground in other parts of the state and country.

During the Great Depression the State of New York began to acquire Reforestation lands under Article 9, Title 5 of New York State's Environmental Conservation law. In 1933, the Conservation Department bought its first parcel in the area now included in this Unit. Most of the acreage was acquired in the mid to late 1930s, with continued purchases of abandoned farmlands through the 1940s. These parcels ranged from 4 to 724 acres, with a typical parcel about one hundred acres in size. Since then only a few smaller parcels have been acquired, with the exception of an acquisition of Hall Island State Forest from the Niagara Mohawk Power Company (NMPC) in 1993.

For over 90 years, NMPC had been the predominant landowner of the properties surrounding the Salmon River reservoir. In 1993, NMPC was directed by the New York State Public Service Commission to divest all land they owned along the Salmon River, which was not essential to their core business of hydroelectric generation. As a response to this ruling, NMPC developed a comprehensive land management plan which has been guiding the sale of thousands of acres of property in the area. In 1993, the first phase of this plan was implemented when NMPC sold more than 1,700 acres of land and 13 miles of conservation easements and stream rights along the Salmon River to the DEC. The Hall Island State Forest and the conservation easements on the two largest Islands in the reservoir properties were part of this purchase by the DEC. This purchase was made possible with funding from the R. K. Mellon Foundation and the Conservation Fund of Arlington, Virginia. The Niagara Mohawk divestiture is still continuing with the new owners, National Grid Power Corporation. The Department is in the process of acquiring an additional 2100 acres, of which 735 acres are adjacent to the State Forests and will become part of this management unit.

For the protection of open space and public use, the Department continues to pursue acquisition of lands from willing sellers, as funds are available. Recent acquisitions other than the NMPC and National Grid properties consist of properties from Lord and Winn, Flying Ace Properties, Zebisch estate, and a generous gift of 50 acres from the McChesney family. During the late 1930s through 1950s reforestation was considered necessary to put these lands

into productivity and prevent erosion of abandoned farmlands. The Civilian Conservation Corps (CCC) carried out much of the planting on acquired lands within the Upper Salmon River Unit. CCC camps were active in the area up until 1942 when the camps were closed. The camps which did most of the reforestation planting were CCC Camp S-130 in Williamstown, CCC Camp S-116 in Winona and the CCC Camp in Camden. From the late 1930s through 1962, many parcels were planted and some replanted with white pine (577,550 **seedlings**), red pine (514,250 seedlings), white spruce (252,550 seedlings), Japanese larch (221,950 seedlings), Norway spruce (106,950 seedlings), Scotch pine (59,900 seedlings), white cedar (56,850 seedlings), Jack pine (40,000 seedlings), Douglas fir (33,150 seedlings), eastern hemlock (12,150 seedlings), and a small amount of red spruce (4,400 seedlings). Often the land was first hand plowed and trees planted in blocks. Refill plantings of **conifers** or in some cases, hardwoods such as sugar maple (20,700 seedlings), white ash (7,200 seedlings), and American elm (10,100 seedlings). There was a hiatus in planting in the mid- 1940s during World War II. Planting resumed again by the Conservation Department in the late 1940s and early 1950s, with some of the previous area needing replanting. In all, some 1,917,000 trees were planted on the State lands comprising the Upper Salmon River Management Unit. The majority however, were simply allowed to revert back to second growth hardwoods.

The 1960s was largely a time for **intermediate treatment** of conifer **plantation**s. A pre-commercial **thinning** was carried out in many stands. Some were also pruned. In 1972 during the restructuring of New York State government under which the Conservation Department became the Department of Environmental Conservation, management regions were redrawn. Oswego County became part of Region 7; administration changed from Lowville to the DEC office in Cortland. During the 1970s harvesting of some timber from State Forests in the Unit began. Most of the harvest was of northern hardwoods for firewood, with some extraction of locust posts, larch poles and aspen **pulpwood**. Since the 1980s, significant commercial harvests of plantations and hardwoods have taken place. This continues with approximately 630 acres of combined hardwoods and softwoods forest stands receiving some type of silvicultural treatment within the last five years.

The history and use of the upper Salmon River and Salmon River reservoir from the early to late 1900s was driven by the development of the hydroelectric power facilities. The Salmon River Power Company, later to become Niagara Mohawk Power Company, harnessed the water power of the Salmon River for generating electricity. Their first step was to create the Salmon River Reservoir by damming the Salmon River above the Salmon River Falls. A 10,000 foot pipeline was built from the Salmon River Reservoir to the Bennett's Bridge powerhouse, creating a bypass around the Salmon River Falls spilling into a second reservoir and hydroelectric facility know as Lighthouse Hill. The reservoir level and associated lower Salmon River flow rates are presently regulated by the Brookfield Power Company through the Federal Energy Regulatory Commission (**FERC**) licensing of the hydroelectric facility; the license was last renewed in 1996. One of the highlights of the license renewal was a new requirement which directed the power company to release specific minimal flow rates from the dam on the Salmon

River reservoir. (*United States of America Federal Energy Regulatory Commission, 1996)* This water release base flow requirement also has resulted in fluctuations of the reservoirs water levels throughout the year.

In the 1990s, land use and development in the Salmon River watershed was the subject of considerable regional interest. Particular interest focused on the "Salmon River Corridor", including the area approximately one mile on either side of the river and reservoir from Redfield to Lake Ontario (Dawson 1994). With the announcement by the NMPC of plans for divestiture of their properties along the Salmon River, the Cooperative Tug Hill Council launched an effort in July of 1993 to coordinate **community** involvement in planning for the future of the Corridor. The Tug Hill Council formed the Salmon River Corridor Coordinating Committee to carry out this planning effort. Public meetings and meetings with key local officials identified environmental land use and economic impacts created by proposed corridor developments. Since those initial meetings, numerous other meetings were held by the Oswego County Planning Board and the Tug Hill Commission in an effort to gain input on how the public would like to see the area improved and protected. The most recent efforts have been the "Salmon River Watershed Inventory and Landscape Analysis" and the "Salmon River Watershed Natural Resource Assessment". The analysis and assessment were made possible by a grant, obtained by the NYSDEC from the US Fish and Wildlife Service, Wildlife Conservation and Restoration Program. These projects were established to provide a base of information for local communities, non-governmental organizations and government agencies to use in their planning processes with the goal of balancing protection and wise use of the area's natural resources, while developing economic growth through tourism, land development and sustainable resource utilization.

D. Demographics of Area

During the last 200 years, population trends for the towns within the Unit reached their peak in the 1870s and had decreased into the late 1900s. Table 3 has U.S. Census Bureau information from 1990 to 2008 showing a rise in population for each town in the Unit. Further analysis of the census tract data from 2000 shows the majority of the Unit is within two U.S. Census tracts that cover 585 square miles with an estimated population of 8933 people. The average family size is three people with a median age of 36. Approximately 15 people per square mile (42 acres per person) live in an estimated 2,624 housing units on the land surrounding the Unit. Approximately 50% of housing units within the two census tracts are year round residents.

Table 3. U.S. Census Bureau Population Trends for Towns within the Unit.

Township	1990 Pop.	2000 Pop.	2008 Pop.	% Change	2000 Housing units.	% Vacation Housing units.
Florence	852	1086	1101	+ 23%	432	15%
Orwell	1171	1254	1290	+ 10%	701	40%
Osceola	239	265	265	+ 10%	402	72%
Redfield	564	607	667	+ 15%	537	57%

The communities within the 10 mile radius of the Unit are Altmar, Florence, Orwell, Osceola, Redfield, Westdale and Williamstown. The Unit is within the confines of the Altmar-Parish-Williamstown, Camden and Sandy Creek school districts.

E. Geological Information

1. Surface Geology

Most surface geology in the region was influenced by the processes of glaciation that occurred during the Pleistocene Epoch. Ice sheets from the last glaciation episode (Wisconsinan glaciation episode) retreated from the area about ten thousand (10,000) years ago. Glacial activity left behind numerous sedimentary deposits and surficial features. Weathering and erosion by streams and rivers has continued to sculpt the surface geology to present day, resulting in the hills and valleys prevalent throughout the region. Some features filled with water creating numerous lakes, small and large.

Most soils and sediments in the region are related to past glacial activity, and subsequent weathering and erosion processes over the last 20,000 years. The underlying parent rocks (rocks that were subjected to the processes of glaciation, weathering and erosion) of this region are sedimentary rocks; specifically shale, siltstone, and sandstone of Lower Silurian and Middle to Upper Ordovician Periods of the Paleozoic Era, more than 400 million years old.

Surficial deposits overlying bedrock in the UMP area are predominantly glacial till with much of the till in the northern portion of the UMP area deposited as **ablation moraine** during downwasting or final melting of the glacier. These deposits contain minor amounts of sand and silt with more gravel and boulders. Glacial outwash and **kame** deposits occur in the stream valleys in the UMP area. The outwash and kame sand and gravel deposits are associated with glacial meltwater fluvial systems and deposition adjacent to the ice. Deposits of lacustrine sand and muck, silt and sand deposited in swamps comprise the surficial deposits in the O'Hara State Forest that were deposited in or are associated with **proglacial lakes**. Further information on the surface geology of the region is provided by the: *Surficial Geologic Map of New York, Adirondack Sheet, New York State Museum - Geological Survey Map and Chart series #40, 1986.*

2. Soils of the Upper Salmon River Unit

Several soil series are found on the Unit. The major soils types include Colton, Westbury and Worth which are also common throughout Oswego and Lewis Counties. *Rapparlie, D. F. et al. (1981)*

- 55% of the soils typed on the Unit are Worth series which are moderately course textured, strongly acidic and well drained. They are deep with brown gravelly fine sandy loam 7 inches thick and the subsoil thickness of 12 inches followed by a **fragipan** of 21 inches thick. These soils were formed by glacial till deposits and derived from acid sandstone. The topography is gently sloping to steep and can be found in convex areas of till plains at the higher elevations of the area.

- 18% of the soils typed on the Unit are Colton series which are course textured, strongly acidic and excessively drained. They are deep with surface layer 8 inches thick and the subsoil extending from 34 to 60 inches in depth. These soils formed by glaciofluvial deposits are dominantly sand and gravel derived mainly from sandstone. The topography is typically rolling to steep and can be found on outwash plains, eskers, terraces, and low rounded hills.
- 10% of the soils typed on the Unit are Westbury series which are moderately course textured, extremely to medium acidity and somewhat poorly drained. They are deep with dark gray gravelly fine sandy loam 8 inches thick and the subsoil thickness of 21 inches and substratum depth to 50 inches. These soils were formed by glacial till deposits and derived from acid sandstone. The topography is nearly level and gently sloping and can be found in moderately low areas on upland till plains.
- 17% of the soils in the Unit are classified as other and include: Adams, Beaches, Canaan, Empeyville, Fluvaquents & Udifluvents, Humaquepts & Fibrists, Naumburg, Palms, and Rifle soils.

About 77% of the soils in the Unit are classified as well drained, 6% moderately well drained and 17% poorly drained. The depth to mean high water table varies from 0 to 6 feet. See Soils Map in Appendix XII. More detailed information on these soils can be found in the Oswego County and Lewis County Soil Surveys published by the United State Department of Agriculture Soil Conservation Service.

3. Bedrock Geology

Bedrock underlying the region is inclusive of sedimentary rock units deposited in association with ancient seas and their marine-fluvial-deltaic environments of deposition during the Cambrian (550-500 million years ago (mya)), Ordovician (500-440 mya), Silurian (440-400 mya) and Devonian (400-350 mya) Periods of the Paleozoic Era.

Younger bedrock units deposited during the post-Devonian periods (such as Mississippian and Pennsylvanian periods) have been subsequently eroded away by erosional and glacial processes. Underlying the Paleozoic rocks is pre - Paleozoic Era rocks or Pre-Cambrian rocks generally considered to be composed of igneous and metamorphic rocks. These rocks are generally referred to as “basement” rocks.

Rock units (bedrock) outcropping or subcropping beneath the unconsolidated surficial deposits throughout most of the UMP area are the Upper to Middle Ordovician age Oswego Sandstone. The Lower Silurian Medina Group and Upper Ordovician Queenston formation sandstones, siltstones and shale comprise the bedrock through parts of West Osceola State Forest and east of Battle Hill State Forest.

Further information on the bedrock geology of the region is provided by the: *Geologic Map of New York - Adirondack Sheet - New York State Museum and Science Service - Map and Chart Series #15, 1970.*

4. Geologic Structure

Subsurface rock formations dip (become deeper) to the south at an average dip angle of about one (1) degree or deepens 100 feet per each mile traveled to the south/southwest. The *Geologic map of New York - Finger Lakes Sheet #15, 1970*, depicts progressively older rock units outcropping farther to the north, confirming the southerly dip of strata in the region.

Geologic structural features in the region generally trend in a northeast to southwest direction. north-south trending faults have also been identified in the central portion of western New York; however, few structural anomalies have been indicated in the UMP area. Structural reference is available from the *Preliminary Brittle Structures Map of New York, New York State Museum-Map and Chart Series No.31E, 1974*.

F. Forest Resources

1. Inventory and Assessment Procedure

Forest inventory is the process used to collect data on forested areas to use in future decision making. The forests on the Unit have been subdivided and mapped into hundreds of stands. Each stand consists of an area having similar vegetation cover. This process is initially done using aerial photo imagery. Streams and water bodies are also mapped. The boundary of each stand is verified in the field and data on tree species, tree size, and slope is collected through sample plots. Additional supplemental information is collected on topics including, but not limited to: invasive species, rare species, forest health, tree regeneration, cultural resources, trails, utilities, spring seeps and vernal pools, as well as future management recommendations.

As part of the supplemental inventory process the natural heritage program data and archaeological data on the DEC's Master Habitat Data Base is referenced to determine the presence of rare and endangered plants and archaeologically significant sites. The Department would also welcome public input that could add to the supplemental inventory database. The supplemental inventory database will be appended each 10 year forest inventory cycle, or when a forest stand is actively managed. As a matter of policy DEC Forestry staff will collect and analyze updated stand data prior to marking an area for forest management treatment.

After the collection process has been completed, the inventory data is then compiled into computer databases so that it can be summarized and sorted to form the base of background information upon which the unit management plan is developed. Arc Geographic Information System (Arc GIS) software was then used to analyze the information for the development of this plan. A summary of the individual State Forest Inventory data can be found in the Management Action Schedule of this document. Maps showing each State Forests inventory mosaic and type map can be seen in Appendix XII.

2. Forest Matrix

The Unit includes 1,111 acres of the Tug Hill Forest Matrix Block, located on Oswego RA #14, Battle Hill State Forest, east of Old State Road and County Route 17, and north of Harvester Mill Road.

Forest matrix blocks are large areas of unfragmented forests with high species diversity that have been identified, by the NY Natural Heritage Program, as priority areas for forest maintenance and conservation (Perry, 2012). Threats to these areas include activities which permanently fragment the forest such as land clearing and associated development or construction of new roads. Additional threats include loss or displacement of native species due to impacts from **invasive species** or diseases, water pollution from human activities, and impacts from acid precipitation and global warming. In New York State, 107 forest matrix blocks have been identified as priorities for conservation. Additional information on Forest Matrix Blocks is available in Chapter 2 of the SPSFM.

3. State Forest Inventory - Data Analysis

In preparation for this planning process, forest inventory was conducted on each state forest within the last 10 years. Table 4 illustrates an acreage summary of the inventory data collected and arranged into land classifications and cover types by tree diameter classes on the Unit.

Table 4. Present Land Classifications on the Salmon River Unit

	Average Stand Diameters				
Land Classification*	**Total Acres**	**0-5" acres**	**6-11" Acres**	**12"+ Acres**	**% of Total**
Other	102	-	-	-	1.0
Ponds (2)	6	-	-	-	0.1
Shrub/Brush	36	36	-	-	0.4
Wetlands	647	-	-	-	6.6
Natural Hardwood	5115	91	1719	3305	52.5
Natural Hardwood/Conifer	2008	-	1012	996	20.6
Conifer Plantations	1821	-	375	1446	18.7
TOTAL	**9735**	**127**	**3016**	**5747**	**100**

* Key to Land Classifications:

Other – includes administrative areas such as roads, power lines, parking areas, and abandoned gravel pits.

Ponds – Are either man made or naturally occurring and identified in the State Forest Inventory System.

Shrub/Brush – represents abandoned brushy fields and early successional communities containing vegetation smaller than 1" **Diameter (at) Breast Height (DBH).**

Wetlands - areas that have few trees and may be open wet meadows or lightly wooded swamps. This designation may also contain smaller open water areas created by beaver dams and could be considered a temporary pond.

Natural Northern Hardwood - naturally established stands that consist of hardwood trees.

Natural Hardwood/Conifer - naturally established stands of conifers growing mixed with hardwoods.
Conifer Plantations - conifer trees that have been established by planting.

4. Stages of Forest Development

Forested areas were classified by the average diameter of the trees present:

- 1% - Seedling-sapling/brush, early successional (average stand diameter 0"-5")
- 31% - **Poletimber** (average stand diameter 6"-11")
- 59% - **Sawtimber** (average stand diameter 12"+)

(Analysis represents land in forest cover & excludes wetlands, roads, shale pits, parking lots & non-forest land). The majority of the forest stands have trees between 6 & 17 inches **diameter at breast height**.

5. Forest Age Structure

The data was then used to examine the existing age structure of each forest stand on the Unit:

- 71% of the forest stands are **Even-aged stands**
- 29% of the forest stands are **Uneven-aged stands**

(Analysis represents land in forest cover & excludes roads, shale pits, parking lots & non-forest land).

G. Water Resources

1. Watersheds

The Unit lies mainly within the Salmon River Watershed (which is part of the greater Lake Ontario Basin). A smaller portion of the south east corner of the Unit lies within the West Branch Fish Creek Watershed (which is part of the greater Oneida Lake watershed). The portion of the Salmon River Watershed which drains through the Unit and into the Salmon River Reservoir is approximately 138,824 acres in size which is 79% of the total Salmon River watershed. The portion of the West Branch Fish Creek Watershed which drains through the Unit is approximately 6,790 acres in size which is 5% of the total West Branch Fish Creek watershed and is essentially a headwater area.

2. Streams & Rivers

The Department provides a class and standard designation of all waters within the state based on existing or expected best usage of each water or waterway segment.

- The classification AA or A is assigned to waters used as a source of drinking water.
- Classification B indicates a best usage for swimming and other contact recreation, but not for drinking water.
- Classification C is for waters supporting fisheries and suitable for non - contact activities.

- The lowest classification and standard is D.

Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning (TS). Special requirements apply to sustain these waters that support these valuable and sensitive fisheries resources.

Small ponds and lakes with a surface area of 10 acres or less, located within the course of a stream, are considered to be part of a stream and are subject to regulation under the stream protection category of Protection of Waters.

Certain waters of the state are protected on the basis of their classification. Streams and small water bodies located in the course of a stream that are designated as C(T) or higher (i.e., C(TS), B, or A) are collectively referred to as "protected streams," and are subject to the Department's stream protection provisions of the Protection of Waters regulations.

This Unit has approximately 26.6 miles of consistent streams which flow most of the year and 13.1 miles of intermittent streams. Of these streams, 4.4 miles are classifies as Class C waters, 18.1 miles are classified as C (T) trout waters and 4.1 miles are classified as Class C (TS) trout spawning waters. *(NYSDEC Protection of Waters Website, 2012)*

There are 13 named streams which include three named rivers along with numerous unnamed lesser tributaries or intermittent streams. The following are the named streams on the Unit and their classification:

- Baker Brook - C(TS)
- Coey Creek - C(T)
- East Branch Salmon River - C(TS)
- Fox Brook - C
- Kenny Brook - C(T)
- Little Baker Brook - C(TS)
- Mad River - C(T)* *(Salmon River water shed)*
- Mad River - C(T)* *(Fish Creek Watershed)*
- Mill Stream - C(T)
- Muddy Brook - C(T)
- North Branch Salmon River - C(T)
- Perry Brook - C(T)
- Prince Brook - C(TS)
- Spellicy Brook - C(T)

* There are two separate Rivers of the Unit named Mad River. The Mad River located in the Salmon River watershed is the downstream section which runs into the North Branch of the Salmon River. The Mad River located in the Fish Creek watershed is the head water of the Mad River which runs into the West Branch Fish Creek.

Some of the streams within the Unit may become reclassified once a scheduled stream survey is conducted beginning in the summer of 2011. A complete list of the streams and their classifications can be found in Appendix III.

There are two significant biological resources also known as Representative Sample Areas (RSA) identified by the Natural Heritage Program and associated with streams. They are the "Confined River" and "Rocky Head Waters" occurrences. The "Confined River" occurrences are found on portions of the Mad River, North Branch Salmon River and East Branch Salmon River and are located on the Battle Hill, Salmon River and West Osceola State Forests respectively. The Rocky Head Waters is found on Mill Stream which is located on the National Grid proposed acquisition.

3. Wetlands

In New York, wetlands are legally protected by the State if they meet the criteria found in section 24-0107 of the Freshwater Wetlands Act and occupy at least 12.4 acres (see Appendix I for State wetland classifications). The Upper Salmon River Unit contains 26 different State Classified freshwater wetlands totaling approximately 955 acres.

Wetlands may also qualify for federal protection based on hydrology, vegetation, and soils. There are 377 separate, federally-designated freshwater wetlands on the Unit totaling approximately 1,627 acres (see Appendix II for the list of Federal wetlands).

There is a red maple-hardwood swamp ecological community identified by the Natural Heritage Program located on the Hall Island State Forest. This community has a Heritage State Rank of S4S5. This rank is not high enough to consider this area as a RSA but is still noteworthy to identify. This occurrence is known locally as Fox Brook Wetlands and has a total size of 265 acres with approximately 49 acres on the State Forest.

4. Spring Seeps and Vernal Pools

Spring seeps are areas where groundwater emerges from underground to the surface. They are valuable to wildlife, particularly wild turkey because in severe winters they provide snow-free feeding sites and are among the first sites to provide green plants in spring. Spring seeps are used by amphibians such as the Jefferson salamander, spotted salamander and by **neotropical migratory birds** such as the veery and wood thrush. The springs and seeps on this unit are also important suppliers of clean cold waters necessary for productive headwaters to the native brook trout fishery.

Vernal pools are small areas that are wet in the spring of the year. The pools derive their name from vernalis, the Latin word for spring, because they result from various combinations of snowmelt, precipitation and high water tables associated with the spring season. The pools tend to occur in small depressions and while many dry up in late summer, a few have water year-round. By definition, vernal pools are free of fish and can support a rich **community** of amphibians and invertebrates that would be difficult to sustain if fish were present. Due to the relatively flat topography, heavy snowfalls and relatively flat topography of the area, there is an abundance of spring seeps and vernal pool on the Unit.

5. Water Bodies

Ponds

The Unit has 1 man-made pond which is about 1 acre in size, located on the Battle Hill State Forest. This pond does not have a Watershed Index Number (WIN) and has not been surveyed by the Bureau of Fisheries. Since ponds usually require continued stocking to support trout, it is unlikely that trout are present in this pond. If the pond supports fish, the species present are likely warm water species such as bullheads, largemouth bass, golden shiners and sunfish. The pond also provides good habitat for reptiles, amphibians and aquatic invertebrates.

The Unit presently has 15 beaver ponds totaling approximately 56.3 acres and range in size from 0.1 acres to 29.1 acres. The ponds size and depth are dependent upon the activeness of a beaver population and are very susceptible to change due to trapping or predator activity and high water conditions. These ponds may have native trout populations, but populations will decrease over time due to the likeliness of increasing water temperatures.

Salmon River Reservoir

Although the Salmon River Reservoir is not a specific part of this management Unit it is significant enough in size and location to include in this information section.

The Salmon River Reservoir is a man made reservoir primarily developed for the purpose of generating hydroelectric power. The reservoir was created in 1912 as a hydroelectric project to provide water power to the Bennett Bridges Hydroelectric Plant. The reservoir, along with all the hydro facilities, is currently owned and operated by the Erie Boulevard Hydropower, L.P., which is a subsidiary of Brookfield Renewable Power. The reservoir is six miles long, 2,637 acres in size and has a capacity of 56,000 acre-feet of water with the greatest depth being approximately 50 feet. The water level fluctuates throughout the year depending upon precipitation amounts and water demands for power and minimum flow rates as specified in the FERC licensing agreement with the power company.

There is a limited amount of development of the reservoir shoreline since the shoreline and majority of the lands adjacent to the reservoir are in either Erie Boulevard Hydropower or State ownership. The majority of the power company ownership consists of the reservoir bed and shoreline up to an elevation of 940 or in some areas a property line above the previous mentioned elevation. This land is often referred to as the FERC lands since it is regulated under the FERC licensing agreement and subject to the specific license terms for the Salmon River Hydroelectric Project. The Salmon River Hydroelectric Project FERC lands are owned by Erie Boulevard Hydropower and their management is guided by the Brookfield Renewable Power's General Land Use Policy as well as the Land Use Policy and Licensing Procedures for the Salmon River and Lighthouse Hill Reservoirs.

The reservoir is home to both warm and cold water fish species. It is a popular fishing destination during the spring, summer and fall with very little ice fishing interest during the winter. The reservoir is also popular for recreational boating during the summer months for

water skiing, jet skiing, kayaking and canoeing. Because much of the area is open to the public the reservoir is also popular for primitive camping which will be discussed in more detail later in this plan.

Table 5. – Summary of Water Resources Found on the Unit *(see Appendix XII for maps)*		
Streams/Rivers		
	Classification	Length on Unit
Intermittent streams	None	13.1 mi.
Perennial streams/rivers	C	4.4 mi.
Trout streams/rivers	AA (T), A (T), B (T) or C (T)	22.2 mi.
Wetlands		
New York State Regulated wetland		955 ac.
Additional Federal Regulated wetland (less than 12.4 acres)		672 ac.
Vernal pools and spring seeps		Abundant & not yet inventoried
Water Bodies		
Ponds (natural and manmade)		57.3 ac.

H. Fishery Resources

No state listed endangered, threatened, or special concern fish species are known to inhabit the waters in the Unit.

The primary fishery resources on the Unit are trout streams that flow from the Tug Hill. The East Branch of the Salmon River receives a stocking of rainbow and brook trout each year, while the North Branch of the Salmon River and the Mad River get brook trout annually. There are also numerous smaller streams in the Unit that are Class C(T) and presumably support brook trout, but may be too small to attract significant fishing activity. However, these small streams likely serve as brook trout spawning and nursery waters. See Appendix XII for a map showing the streams on the Unit and their classification.

The one man made pond on Battle Hill State Forest that is not significant enough in size to warrant specific fisheries management. The other ponds on the Unit are beaver made impoundments and are typically impediments to fish passage and can also cause warming to water temperatures which may, over time, reduce the capability to support trout species.

The Salmon River Reservoir is adjacent to, but not included in the Unit. At present this water body is considered a warm water fishery with a healthy population of bass, sunfish and perch. In the 1960s an effort was made to remove the warm water fish species and reintroduce cold water species of trout but with no lasting success. The reservoir water temperatures have proven to be too warm to support a successful cold water fishery. Within the last 5 years there has been an initial effort to stock walleye fingerlings. This initial stocking effort has concluded in order to reevaluate the success rate before any future stocking plans are decided on by the Bureau of Fisheries.

See Appendix IV for a list of fish species found on or in the vicinity of the Unit.

I. Wildlife Resources

The Nature Conservancy has given special recognition to the forests on the Unit. The Nature Conservancy has identified most of Oswego #14, Battle Hill State Forest as part of the Tug Hill Forest Matrix Block. As a Forest Matrix Block, it is a **site** that represents a high quality forest ecological community. Outside of this area, the forest land becomes increasingly fragmented and interrupted by agricultural lands, communities and major highways. This large, remote and mostly forested block of land provides habitat for a great diversity of species including those that are sensitive to human **disturbance** and associated fragmented forests. These areas also provide habitat for species that require interior forest conditions or those associated with the dominant forest types.

The presence and abundance of wildlife species depends upon the availability and quality of suitable habitat. The area within a 10 mile radius of the Unit has a high percentage of forest cover. While the factors which affect individual wildlife species populations are many and varied, the general trend around this Unit is for the woodland wildlife populations to remain stable and those species associated with open land to decline.

Current knowledge of many wildlife species is limited. The first statewide survey of reptiles and amphibians was conducted in 1990-1999 to create the New York State Amphibian and Reptile Atlas Project, http://www.dec.ny.gov/animals/7140.html. The second survey of breeding birds was completed in 2000-2005 for the production of the New York State Breeding Bird Atlas, http://www.dec.ny.gov/animals/7312.html .

An estimated 123 species of birds, 51 species of mammals, 17 species of reptiles and 17 species of amphibians may be found on or in the vicinity of the Unit. Further information about many of these wildlife species are described below. Rather than list every species, species are described for those “species of general interest,” “species of greatest conservation need,” and “**special concern**, **threatened** or **endangered**” species. For a complete list of the species expected to be found on or in the vicinity of the Unit, see Appendix V. Lists of Amphibians and Reptiles, Breeding Birds and Mammals found on or in the vicinity of the Unit.

1. Species of General Interest

Backyard song birds – These include common song birds such as blue jays, black-capped chickadees, white-breasted nuthatch, Northern flicker, dark-eyed juncos and robins. Their populations are expected to remain stable.

Black Bear - Bear are present and their numbers are expected to remain stable or slightly increase.

Beaver - Beaver are important for their ability to create wetland habitat for other animal species. Beaver are abundant in the numerous wetlands and watercourses on the Unit. Their numbers are expected to be stable in the future.

Bobcat - Bobcat are present in low numbers. Their population is expected to remain stable.

Deer – White-tailed deer are an important component of the Unit's fauna, both for their recreational value and their capacity to impact other resources and human activities and interests. Deer numbers are relatively low on the Unit due to the harsh winter climate and limited food resources to carry overwintering deer. The Department manages deer populations in accordance with recommendations from the Citizen Task Force established for each Wildlife Management Unit. The Upper Salmon River Unit is within Deer Management Unit (DMU) numbers 6N and 6K.

Eastern Cottontail Rabbit - Population has been decreasing as former agricultural lands have become forested.

Eastern Coyote - Coyote are present throughout the Unit. Recent DNA research suggests that the eastern coyote is a genetic mix of Algonquin wolf of Canada and the western coyote. Their population is expected to increase slightly.

Fisher - Fisher use hemlock woods in large forested areas for their habitat. They are one of the few species that prey on porcupine. Their numbers are expected to remain stable or increase.

Otter – Otter are present on the Unit. Their population is expected to remain stable.

Red & Gray Fox - They are present on the Unit. However, like the Cottontail, their numbers are declining as open lands increasingly grow back into forest.

Snowshoe Hare – Require early successional habitat that is declining in the region. Their population is expected to decline.

Turkey - Turkey are present on the Unit, but their population density is less than other areas of New York State that have less snow fall and more agricultural land. Their numbers are expected to remain stable.

Woodpeckers - Pileated, hairy and downy woodpecker populations are expected to increase as the forests mature. They are important for their ability to create tree cavities that are needed by other bird and mammal species.

2. Species of Greatest Conservation Need

In 2005, the Department released *New York State's Comprehensive Wildlife Conservation Strategy* (CWCS). It can be found at: http://www.dec.ny.gov/animals/30483.html

This plan addresses the conservation of those "*Species of Greatest Conservation Need*" (SGCN). This list of species was developed by DEC Bureau of Wildlife staff in consultation with experts and scientists from across the State. In the plan, the State is examined by major watersheds to determine those species in greatest need of conservation. The Upper Salmon River Unit is in the Southeast Lake Ontario Basin portion of the plan. Table 6 lists those SGCN species known to be on or in the vicinity of the Unit and their population trends.

Table 6. SGCN Species by Species Group Likely to be On or In the Vicinity of the Unit

SGCN Mammals	
Species Group	**Population Trend**
Tree Bats	
Eastern red bat	Unknown
Hoary bat	Unknown
Furbearer	
River otter	Stable

SGCN Birds: *NYS Breeding Bird Atlas 2000 - 2005.*	
Species Group	**Population Trend**
Early Successional forest/shrub land birds	
American woodcock	Decreasing
Black-billed cuckoo	Decreasing
Black-throated blue warbler	Decreasing
Blue-winged warbler	Decreasing
Brown thrasher	Decreasing
Canada warbler	Decreasing
Ruffed grouse	Decreasing
Willow flycatcher	Decreasing
Deciduous/mixed forest breeding birds	
Scarlet tanager	Decreasing
Wood thrush	Decreasing
Forest breeding raptors	
Cooper's hawk	Increasing
Northern goshawk	Increasing
Red-shouldered hawk	Decreasing
Sharp-shinned hawk	Increasing
Grassland birds	
Bobolink*	Decreasing
Eastern meadowlark*	Decreasing

Grasshopper sparrow*	Decreasing
Vesper sparrow*	Decreasing

* These are upland **grassland** dependent species that were likely found outside the Unit.

Breeding waterfowl	
Blue-winged teal	Decreasing
Freshwater marsh nesting birds	
Pied-billed grebe	Decreasing
Other	
Osprey	Increasing
Bald eagle	Increasing
Common loon	Unknown

SGCN Reptiles & Amphibians: ***NYS Amphibian and Reptile Atlas Project, 1990-1999.***

Species Group	**Population Trend**
Woodland/grassland snakes	
Smooth Greensnake	Unknown
Snapping turtle	
Snapping turtle	Unknown
Lake/river reptiles	
Wood turtle	Unknown
Mudpuppy	
Common mudpuppy	Unknown

SGCN Fish & Mussel Species: No species known or likely to occur on or in the vicinity of the Unit.

As shown in the table above, the majority of species with decreasing population trends are those bird species that require early successional forest/shrublands or **grasslands** for habitat. These types of habitats are declining throughout the northeast as abandoned agricultural lands revert back to forest cover. Historically, these habitats were created by periodic disturbances such as fire, beaver flooding, river flooding, Native American burning activities, and wind storms. Elsewhere, native grasslands have been used for agriculture. Today, most of the disturbance factors are minimized or eliminated to accommodate the needs of society. Provision of these habitats for species dependent upon them will largely depend upon active management in the future.

IX. RESOURCE DEMANDS ON THE UNIT

A. Timber Resources

Timber resources include hardwood and softwood sawtimber, pulpwood, and firewood. Some of the factors affecting timber demand on the Unit include timber value, distance to markets, timber species and quality, the availability or scarcity of similar timber in the area, international trade policies and market demand.

The demand for timber on the Unit is part of the larger regional timber market which is part of the global market for wood products. For example: hardwood trees grown and cut on the Unit's State forests are often purchased by local loggers or sawmills, sawn into lumber at a mill within the region, and may eventually end up in a consumer product sold in Europe, Asia, or South America. The United States is a large part of the global market and has the highest per capita wood consumption of any nation on the planet. Wood products have been essential to the development of our country and continue to be an essential need of our society. As worldwide population continues to increase and the economies of other countries develop, there will be a continued long term increase in the global timber demand.

Regionally, within the four county Tug Hill area, an estimated 5,900 people are employed in timber harvesting or wood using industries with combined annual payrolls of over 190 million dollars and product values of over 727 million dollars (*Tug Hill Commission, 2003*). At the regional scale, there is a strong demand for hardwood sawtimber from regional sawmills.

The market for spruce is almost exclusively for saw logs. There are no spruce sawmills in New York State, so nearly all spruce logs are sold and trucked north to Canadian sawmills which process the logs into lumber. These Canadian mills also purchase red pine logs. The Canadian demand for spruce and pine logs fluctuates along with the general state of the economy since most Canadian mills are only hauling logs back north after they have delivered a load of retail products into or through New York State. The other primary factor affecting the demand for spruce logs is the housing market since spruce lumber is primarily used for wood framing construction.

There has been a steady demand for red pine from regional industries which manufacture wood fences and utility poles. Because of the abundance of pine plantations on State forests and their scarcity on private lands, State lands are the primary source for these regional softwood industries.

At the local level, there is a somewhat different demand for wood products. While many local loggers supply larger mills with hardwood logs, lesser valued products such as hemlock or white pine logs and firewood are cut and sold to local markets. Hemlock and white pine are often sawn by band mills for lumber sales primarily within the local community. Firewood is cut by individuals for their own use or for resale to home owners.

The demand for timber on the Unit also is an indicator of those employed in the forest products

sector of the economy who view State Forests as a source of work. One rough measure of this is the number of people who want to receive notice of timber sales from State forests on the Unit. Currently, over 20 individuals or companies have expressed interest in purchasing timber sales within the Unit. Most of these companies or individuals are located in central New York.

B. Biological Resources

Conservation of biological resources is increasingly a societal demand. Biological resources have long been a public demand of forests as expressed through the participation in traditional activities such as hunting, fishing and trapping. More recently, increasing interest in birding and general wildlife viewing activities, as well as the greater awareness of human impacts on the natural world has created additional interest in the management of public lands for a variety of biological-based values. These values may include commodity products such as timber or fur as well as non-commodity values such as trophy deer, small game, species diversity or old growth forests.

During the scoping process, approximately half of the people listed their top interest as an activity or topic directly related to biological resources. Despite this, relatively few comments were expressed relating to biological resources. People submitted the following comments regarding biological resources (See Appendix X for a detailed summary):

- Retain an uncut buffer zone around wetlands and beaver meadows.
- Do more **clearcuts** to improve habitat for small game.
- Do baseline water testing on the water resources of the Unit.
- Do more clear cutting and reforestation of these areas for new growth and wildlife habitat.
- Support purchase of additional lands adjacent to Unit for consolidation of State lands and improved wildlife habitat.

The value of biological resources is often difficult to quantify since they are not easily measured in economic terms. The demand and potential conflict over how best to manage biological resources is expected to increase as the awareness of human induced impacts on the natural world multiply in the future.

C. Recreational Resources

The mission of the DEC Division of Lands and Forests is “to care for and enhance the lands, forests and natural resources in the State of New York for the benefit of all through the care, custody, and control of state-owned lands, and promotion of the use and protection of all natural resources.” This is a broad mission which reflects that DEC has many other responsibilities beyond satisfying public recreation desires. Rather, recreation opportunities are provided on DEC lands that are compatible with other multiple uses and the ecosystem management approach described previously in this plan.

In the public scoping process, most of the comments received were related to ATVs. Many individuals and a local ATV club requested the development of ATV trails on the Unit or requested that ATVs be allowed to travel on existing snowmobile trails and or Department access roads. Some people thought hunters should be allowed to use ATVs. Other individuals expressed that they are opposed to ATV use on State land or are opposed to their use during

big game hunting season. Additional comments obtained from the public scoping expressed the need for improved parking, bathroom facilities, trash containers (waste receptacles) and periodic trash removal from campsites on the reservoir. See Appendix X for a detailed summary of the comments received during the initial scoping process.

Currently, illegal off road vehicle and ATV use occurs on the Unit at various locations. It is unknown if this activity is increasing or decreasing. For a information on DEC's policy regarding ATV use on State Forests, please refer to page 213 of the Strategic Plan for State Forest Management.

Snowmobiling is a major winter recreation activity in the Tug Hill region. The abundance of snowfall attracts people from throughout the northeast to ride the trails here. Different estimates for the economic impact of snowmobiling in this region have determined it to be from at least 76-119 million dollars per year (*Tug Hill Commission, 2003*). State snowmobile registrations are also an indicator of regional demand for the activity. Between 1997 and 2002 snowmobile registrations in New York State increased 30% from 103,000 to more than 150,000 snowmobiles; however in 2009 snowmobile registrations dipped to 136,500. These numbers may suggest that changes in snowmobile registrations are linked with economic trends. The Statewide Comprehensive Outdoor Recreation Plan 2009-2013 (SCORP) (*NYS Office of Parks Recreation and Historic Preservation, 2008*) forecasts a future decline of about 5% by 2025 in the demand for snowmobiling due to changing demographics and rising fuel costs.

Fishing, hunting and trapping are popular activities on the Unit. The demand for fishing and hunting as measured by the numbers of anglers or hunters has increased since 2001. A report published by the *U.S. Fish and Wildlife Service and U.S. Census Bureau, titled "2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation – New York"* shows that between 2001 and 2011 the numbers of State resident fishermen and hunters has increased by 35% and 15% respectively *(Pg 13 &14).*

Local demand for cross-country skiing on State Forest trails is relatively constant and is satisfied by the existing ski trail areas in the region.

Much of the recreational demand and activity on the Unit is focused on lands near the Salmon River Reservoir. Most people want to use State lands to park and access the reservoir for water-based activities or to camp or picnic next to the reservoir. Camping at sites adjacent to the reservoir is a popular activity because of its undeveloped shoreline, remote character, easy access and no fee. The current sites are located on State Forest land as well as Erie Boulevard Hydropower FERC lands along the reservoir which are utilized throughout the warmer times of the year.

There has been a traditional demand for recreational boating access to the Salmon River Reservoir from the Redfield Island boat launch and day use area, the Little America car top access site and the Jackson Road Boat Launch. The Salmon River Reservoir is a popular destination for anglers and it supports an important bass fishery. Several bass fishing

tournaments are held here each year with parking and access from lands in the Unit. The demand for boat access and parking on Unit lands adjacent to the reservoir is expected to remain constant in the future.

Hiking trails exist on the Unit and receive light use. The majority of trails are found on the Hall Island State Forest which was developed in 1994 to be utilized for hiking and cross country skiing. These trails have had very little use since development, primarily due to their remote location and majority of use coming from boaters. Other hiking trails on the Unit are multiple use trails which were developed primarily for snowmobiles or cross country skiing and receive little use during the warmer times of the year.

In the summer of 2009, a visitor's survey was conducted for those using the Salmon River Reservoir. Of the 90 respondents, 100% were either "satisfied" or "very satisfied" with their trip. The recreational activities pursued by visitors included fishing, camping, picnicking, canoeing/kayaking, motor boating and hiking.

There is a demand for fishing on several trout streams found on the Unit. The North Branch of the Salmon River and the East Branch of the Salmon River receive most of the demand for stream fishing. The North and East Branches of the Salmon River are also annually stocked with brook trout and a mix of brook and rainbow trout respectively. Based upon state-wide angler surveys conducted in 1973, 1976, 1988 and 1996 the percentage of anglers interested in trout fishing has declined slightly over the years. Reduced fishing effort on trout streams is believed to be part of this decline. The decline may be related to the increased posting of private land. In addition to those described above, other activities people may pursue on the Unit include trapping, target shooting, mountain biking, canoeing/kayaking, nature viewing and horseback riding. These activities are generally low impact and/or have relatively few participants on this Unit resulting in minimal impact and demands on the Unit.

The greatest change in future recreational demand relates to the changing demographics of New York's population. By year 2025, New York's population will be significantly older and more racially diverse. In future years, the proportion of the population over the age of 60 will be increasing due to the aging of the baby boomer generation and an out-migration of younger New Yorkers who leave the State. By year 2025, the number of residents over the age of 60 is projected to increase by 53% (SCORP, 2008). The result of this will likely be increased participation and demand for outdoor recreational activities enjoyed by older people. The top ten activities enjoyed by New York residents age 60 or older that may also occur on the Unit, included relaxing in a park, visiting historic sites, walking, boating, bicycling, bird watching, fishing and camping (SCORP, 2008). There will also be increased demand for *universally accessible* recreation opportunities as the number of people with limited mobility is expected to increase due to the aging of the population.

D. Mineral Resources

There is currently a broad societal demand for energy since the United States is the largest

consumer of energy in the world. However, there are no known demands for oil or gas extraction on lands in the Unit. No public comments were received on this topic. There has been little historic drilling activity in this portion of the state.

There is currently no public demand for sand, gravel or other hard rock mineral resources on the Unit. The Unit and the pending acquisition lands each have one abandoned gravel pit. Both of these pits are in the process of naturally re-vegetating. There is no expected demand for gravel from these sites in the future.

X. MANAGEMENT CHALLENGES ON THE UNIT

A. Physical Challenges

The following factors pose physical limitations on the management of the Unit's lands and waters: steep slopes; geologic properties; soil characteristics; density and placement of recreational trails; potential insect and disease infestations; limited access; presence of rare or endangered species, cultural resources and invasive **exotic** species; proximity of the Unit's forests; presence of county, town, state roads, electrical transmission lines, telephone lines, pipelines, buried telecommunication lines, deeded right-of-ways, easements and non-native conifer species planted on incompatible soils.

B. Administrative Challenges

The following factors are administrative limitations on the management of the Unit:

- Limited budgets
- Decreased staffing
- Availability of Operations work crews and distance from main facilities
- Reduced availability of inmate work crews
- Fluctuations in wood markets
- Coordination of volunteers to help maintain the facilities
- Management agreement between the DEC and the power company to facilitate the management of public use on State land and FERC lands surrounding the reservoir.

C. Societal Challenges

Public opinion on the following subjects pose societal limitations on the management of the Unit: trapping, hunting, clearcutting, public ownership, pesticides, old forest reserves and recreation. All opinions are considered, but the degree to which they can be satisfied will vary.

D. Departmental Rules, Regulations, Laws, and Policies

For further information of the Department Rules, Regulations, Environmental Conservation Laws and Policies governing the management activities on the Unit please refer to the Strategic Plan for State Forest Management, Chapter 7, Legal Considerations, Page 317.

The State Environmental Quality Review Act (SEQRA) requires the consideration of environmental factors early in the planning stages of any proposed action(s) that are undertaken, funded or approved by a local, regional or state agency. For more detailed information on SEQRA see Appendix VIII.

XI. UPPER SALMON RIVER UNIT MANAGEMENT AREA GOALS, OBJECTIVES AND ACTIONS

GOAL 1: Provide Healthy and Biologically Diverse Forest Ecosystems.

Ecosystem health is measured in numerous ways. One is by the degree to which natural processes are able to take place. Another is by the amount of naturally occurring species that are present, and the absence of non-native species. No single measure can reveal the overall health of an ecosystem, but each is an important part of the larger picture. DEC will manage these State Forests so they are judged to be in a high degree of health as measured by multiple criteria, including the biodiversity that they support, their connectivity to other forests, and their ecological function.

An ecosystem based management strategy will holistically integrate principles of landscape ecology and multiple use management to promote biological diversity, while enhancing the overall health and resiliency of State Forests. In recognition of the fact that forests are dynamic systems, constantly being shaped by the forces of nature, DEC will also apply **adaptive management** techniques and advanced technology to react to insect and disease epidemics, wind and ice storms.

Ecosystem management is a process that considers the total environment, including all living and non-living components. It requires skillful use of ecological, economic, social, political and managerial leadership principles to sustain or restore ecosystem integrity, as well as desired forest uses, products, values and services over the long term. Ecosystem management recognizes that people and their social and economic needs are an integral part of ecological systems. (USBLM 1994)

As the ecosystem management concept is applied through the objectives and actions recommended in this plan, DEC will strive to strike a balance between human needs and ecosystem health. To achieve this, the plan recommends actions that promote biodiversity at the landscape level, as well as healthy, productive, sustainable forest ecosystems.

Objective 1.1 Soil and water quality will be protected by preventing erosion, compaction and nutrient depletion.

Protection of soil and water quality is one of the highest management priorities and is the foundation of sustainable forest management. Since this Unit is located in the watershed of the Salmon River and the Mad River, protecting water quality is important for aquatic habitat and because headwater streams establish the water quality for larger downstream rivers. The Salmon River is one of the most productive tributaries into Lake Ontario and is the basis of a multi-million dollar trout and salmon fishery that has significant importance to the regional

economy. The greatest threat to water quality on the Unit is the potential disturbances to any streambed or adjacent area along with any soil erosion flowing into a water body. The following are actions that will strive to protect the soils and waters of the Unit.

Action 1.1.1 Follow the DEC Special Management Zone (SMZ) Guidelines on all areas identified as a special management zone. These SMZ areas consist of buffer strip areas surrounding water bodies, streams, wetlands, vernal pools and spring seeps. The buffered areas will have different management action restrictions along with varying buffer widths depending upon the sensitivity of the riparian area designated. A detailed description of the Special Management Zone Guidelines can be found in Strategic Plan for State Forest Management pages 108-109. See Appendix XII "Special Management Zones and Representative Sample Areas" map.

Action 1.1.2 All timber harvesting and other management activities on the Unit will comply with the NYS publication Best Management Practices for Water Quality as outlined in the Strategic Plan for State Forest Management pages 109-111.

Action 1.1.3 Monitor BMP implementation by evaluating control structures after construction to assess effectiveness. A State wide monitoring system is intended to be implemented by 2016 as per the SPSFM pg. 112.

Action 1.1.4 Restrict commercial use of water located wholly within the Unit. Wells will not be allowed to be drilled for personal or commercial water extraction.

Action 1.1.5 Protection areas will include 2,991 acres of wetlands and riparian forests. This protection will be formalized by identifying each forest stand with significant wetland or riparian characteristics and limit any activities to occur within those stands that would increase the potential for soil erosion or increased water turbidity. Protection areas will also include an additional 640 acres of steep slopes and inaccessible sites by limiting management actions within the identified stands. See Appendix XII "Proposed Management Direction" maps.

Action 1.1.6 Stabilize severely eroding banks at Redfield Island Day Use Area along the reservoir shoreline. This will require developing a construction plan and working with the power company to gain the necessary approvals and all permitting agencies to do the work.

This erosion has increased since the 1995 FERC license, which calls for maintaining a higher reservoir water level in order to maintain base flows in the Salmon River throughout the year. This higher water level allows wave action to reach further up the shore line, removing soil from vegetation and tree roots. There has also been increased public use of the area that has destabilized areas of the bank from foot and vehicle traffic to the shoreline.

Action 1.1.7 Prohibit motor vehicle access from DEC lands to the banks and shore of the reservoir to prevent soil erosion except at designated trailer boat launches.

Objective 1.2 Provide forest vegetation types or features that are declining or rare in the landscape to enhance wildlife habitat diversity.

State lands comprise a significant portion (18%) of the landscape and are unique in that they have stable ownership and can be managed over long time frames for habitat conditions that can complement the surrounding privately owned landscape.

This plan identifies areas suitable to compensate for the Landscape **Gaps**. The landscape analysis used in this planning process indicates that only 6% of the landscape surrounding the Unit is in early successional shrub/scrub or seedling/ sapling vegetation. Also, due to past demands to clear land and a need for wood products in the late 1800s and early 1900s, there is little to no known late successional forests type in the landscape. Very little of the Unit (33 acres) consists of upland grassland. The Department considers this region of the State to have a low potential for grassland habitat management. As a result, it is not designated as a Grassland Reserve Zone. While the Unit has low potential for grassland habitat management, it can provide **seedling/sapling** early successional habitat and work towards providing late successional forest stands which is frequently lacking on private lands.

Early successional habitat consists of areas dominated by grass or other herbaceous vegetation, shrub lands or young (seedling/sapling) forest cover. The New York State Comprehensive Wildlife Conservation Strategy (CWCS) plan recommends maintaining or increasing the amount of early successional forest and shrub land in the Southeast Lake Ontario Basin. Some of the Species of Greatest Conservation Need identified in the CWCS plan that require early successional habitat include American woodcock, brown thrasher, Canada warbler, ruffed grouse and willow flycatcher.

Late successional habitat consists of forests with mature and older trees, greater than 140 years of age, being dominant in the forest canopy. Late successional forests may have been previously logged but are beginning to develop old growth forest attributes such as large tree size, large downed logs, large snags, cavities and species such as mosses, lichens, fungi and insects that are typically found in old growth forests. This habitat is important since it provides specific habitat conditions that many different species may utilize and that are not found in younger forests. These areas of significantly large and older trees also have social value and are appreciated by many people as places to camp, relax and reconnect with nature.

Action 1.2.1 Increase early successional habitat on the Unit.
Over the next 20 years, early successional habitat will be provided on the Unit through even-aged regeneration harvests. Stands containing a significant amount of aspen, (87 acres), will be managed on a 60 year **rotation** to enhance and perpetuate aspen **forest type** and early successional forest cover. Even-aged management using a 120 year rotation will be conducted on 2,228 acres of the Unit. These areas, consisting of conifer plantations and native hardwoods will provide early successional forest cover at the time of regeneration. It is expected that approximately 312 acres will be regenerated over the 20 year course of this plan. The Unit also

contains 765 acres of seedling/sapling, open or shrub dominated wetlands that are expected to remain in this condition over the next 20 years. See Appendix XII "Proposed Management Direction" maps.

Exemptions to the Special Management Zones will be needed from Lands and Forests, Central Office to provide early successional habitat for woodcock in areas of moist soils near streams or wetlands. Any treatments involving clearcutting will comply with the Department's program policy *ONR-DLF-3 / Clearcutting on State Forests (2011)*. Information on this policy can be found at http://www.dec.ny.gov/docs/lands_forests_pdf/policysfclearcutting.pdf.

Action 1.2.2 Increase late successional forest stage on the Unit.
Existing and proposed late successional forests will be protected and developed on 186 different forest stands totaling 2,929 acres of the Unit. These stands were chosen based upon a number of factors which include visual buffers, inaccessibility, and the protection of sensitive sites surrounding wetlands and riparian areas. The acreage consists of forested stands that, for the most part, may be excluded from timber harvesting. Their distribution is spread throughout the Unit and located in or near wet areas, rivers, streams or visually sensitive areas such as adjacent to the Salmon River Reservoir or uplands sites. See Appendix XII "Proposed Management Direction" maps.

Objective 1.3 Protect at-risk species and significant ecological communities.

At-risk species are those species having the New York State legal status of Endangered or Threatened. Significant ecological communities are those unique areas identified by the New York State Natural Heritage Program as being significant due to rarity or high quality status. For additional information on at-risk species and communities, see the SPSFM, Chapter 3, pgs. 115-126.

The Bald Eagle *(Haliaeetus leucocephalus),* a New York State threatened species, is the only rare species known to exist on the Unit. Significant ecological communities identified on the Unit include: a red maple – hardwood swamp on Oswego 10, confined rivers on Oswego 8 (North Branch Salmon River) and Oswego 14 (Mad River), Oswego Lewis 1 (East Branch Salmon River) and a rocky headwater stream (Mill Stream) located on pending acquisition land east of Redfield.

Action 1.3.1 Protect the bald eagle nest site from disturbance during the breeding season.
Bald eagles are known to nest on the Unit. The area in the vicinity of the bald eagle nest will be excluded from timber harvesting. A snowmobile trail currently exists in the vicinity of the nest site. Snowmobile travel does not conflict with protection of the bald eagles because snowmobiling does not occur during breeding season. The area in the vicinity of the nest site will be protected from other activities during the eagle breeding season by moving the trail.

Action 1.3.2 Protect at-risk species and significant ecological communities, identified by New York State Natural Heritage. This may be accomplished by buffering known occurrences from forestry or recreational management activities or possibly conducting specific management actions which improve or enhance habitat necessary for the species.

Action 1.3.3 Conduct a survey, for rare species or communities by Natural Heritage staff as time and resources become available, of any newly acquired lands and protect any new finds of at-risk species and significant ecological communities identified by New York State Natural Heritage.

A review of the State Forest Predicted Richness Overlay GIS data layer shows the *potential* occurrence of five rare plants and one rare insect on the Unit. The species include Roseroot *(Rhodiola integrifolia)*, Virginia False Gromwell *(Onosmodium virginianum)*, Butterwort *(Pinguicula vulgaris)*, Southern Twayblade *(Listera australis)* , Mingan Moonwart *(Botrychium minganense)*, and the Extra-striped Snaketail (dragonfly) *(Ophiogomphus anomalus)*. Sites where these potential occurrences are located will be protected and/or surveyed before any potential site disturbing activities occur.

Action 1.3.4 Maintain and follow all management recommendations for RSA's to protect or enhance the Confined River and Rocky Head Water occurrences designated by the Natural Heritage Program. All management actions proposed near or adjacent to the RSA's currently comply with recommendations for protection. There are no management actions scheduled in this plan which will threaten or alter the current RSA designated areas.

Objective 1.4 Conserve and Enhance Fish and Wildlife Habitat.

This plan includes multiple strategies to conserve and enhance fish and wildlife habitat. In addition to the actions listed below, see Objectives 1.1, 1.2 and 1.3 as well as their corresponding actions.

Action 1.4.1 Retain snags, cavity trees, reserve trees, conifers, **coarse woody material (CWM)** and **fine woody material (FWM)** as specified in the Division of Lands and Forests policy for retention on State Forests, *ONR-DLF2 / Retention on State Forests (2011)*.
This policy sets forth guidelines for maintaining or obtaining a minimum number of retention trees within a forest stand. A detailed description of the retention policy may be found at http://www.dec.ny.gov/docs/lands_forests_pdf/policysfrention.pdf.

This Department policy addresses the retention of these important habitat structures and features in forest stands that are actively managed for timber production. Retaining these features will maintain the habitat for the wide array of forest wildlife species that depend upon them.

Action 1.4.2 Maintain or improve deer wintering areas.
Deer wintering areas are periodically identified and surveyed by DEC Bureau of Wildlife staff. These sites are often in areas of native conifers where they provide thermal cover and a reduced snow depth which attracts deer in the winter. Thirty nine percent (39%) of the Unit will be maintained as a long term conifer type comprised mainly of hemlock or white pine forest stand types. The stands determined to be important deer wintering areas by the Department's wildlife biologists will be managed in manner to maintain or improve the habitat needed for wintering deer.

Action 1.4.3 Improve the habitat for American woodcock *(Scolopax minor).*
The American woodcock has been identified by the Department as a Species of Greatest Conservation Need and is an important game species that has been declining across its range. The decline is principally the result of habitat change as forests across the northeast have matured following agricultural abandonment *(Kelley, et. al. 2008)*. Woodcock habitat will be improved on 335 acres of the Unit that are managed using the **even-aged system** when these stands are regenerated. Management for woodcock also benefits other declining wildlife species that use early successional habitat such as Canada warbler *(Wilsonia canadensis)*. This acreage is included in the 1.2.2 action but focuses primarily on habitat for American woodcock. See Appendix XII "Proposed Management Direction" maps.

Action 1.4.4 Manage North American Beaver *(Castor canadensis)* where their actions threaten rare species or ecological communities, roads, culverts, trails or other access related infrastructure.
Beaver are an important part of aquatic ecosystems because of their ability to create diverse habitat conditions that are beneficial to a wide array of species. They are an abundant species on the Unit. However, their actions can also have negative impacts to rare species or access infrastructure resulting in the need for costly repairs. Beaver problems will be addressed on a case by case basis after consultation with Bureau of Wildlife staff.

Action 1.4.5 Protect active and inactive (potential alternate) nesting sites for raptors listed as species of Special Concern.
Raptors listed as species of special concern known to nest on the Unit include: sharp-shinned hawk *(Accipiter striatus)*, cooper's hawk *(Accipiter cooperii)*, northern goshawk *(Accipiter gentilis)* and red-shouldered hawk *(Buteo lineatus)*. Each species has specific habitat requirements when nesting. These birds are generally territorial, returning to the same general location yearly. During breeding and nesting season, usually between April and July, human activity near nests may disrupt breeding or cause the adult birds to abandon their nest sites or young. The Bureau of Wildlife staff will be consulted and management activities will be adapted to minimize disturbance to birds that are known to be nesting on the Unit. Adaptive management strategies and actions will be developed and applied on a case by case basis. These strategies may place restrictions on timber harvesting activities and could include: setbacks, no-cut or no disturbance zones, or seasonal restrictions. For recreational uses, actions may include trail closures or rerouting of trails. When specific management strategies for individual species are developed, they will be incorporated into the management plan.

Action 1.4.5.1 Permit licensed falconers to remove only one raptor eyas from the Unit every three (3) years, and in compliance with ECL Article 11 and 6 NYCRR Part 173. Permits for this activity are issued by the Bureau of Wildlife. Recent observations and consultation with the Bureau of Wildlife staff have shown a failure to fledge eyas the following year after an eyas had been removed from an active nest on two separate removals on the Unit *(Crocoll, 2011).* It is expected that this minor restriction could double the eyas numbers over a six year period.

Action 1.4.5.2 Provide and maintain forest stand types acceptable for nesting habitat for northern goshawks on the Unit. Maintain 1,174 acres of a mixed forest type consisting of white pine, hemlock, red pine and hardwood species for the next 20 to 25 years. Studies have found a preference for nesting in mixed stands dominated by conifers – hemlock, pine, white cedar and northern hardwoods. *(Speiser R. & Bosakowski T. 1987)*. Recent observations of forest stand types of active nesting sites on the Unit are consistent with study conclusions for forest type preferences. *(Crocoll, 2011)*

Action 1.4.5.3 Continue to cooperate with the Bureau of Wildlife's effort in monitoring and providing data for research on the status of northern goshawks and other raptors to ensure sustainable populations, and to ensure that our knowledge of the natural history and ecology of these raptors continues to increase.

Action 1.4.6 Protect the habitat of any other at-risk or Special Concern species discovered on the Unit.
The Common Loon *(Gavia immer)* and the Osprey *(Pandion haliaetus)* are Species of Special Concern and are listed as "Possible Breeders" according to the 2000-2005 Breeding Bird Atlas data. However, there are no known nest sites on the Unit for either species. Bureau of Wildlife staff will be consulted for habitat protection priorities if these or other species are found on the Unit.

Action 1.4.7 Protect occupied bear den sites during the hibernation period which is generally during late November through late April. This would restrict any non-routine activities such as timber harvests or construction activities with one km of an identified den.

Objective 1.5 Monitoring of Ecosystem Health

Ecosystems are active and can change slowly over time or quickly from other influences. Periodic monitoring of the Unit is necessary to determine if change is occurring and if it is detrimental or beneficial to the Unit. With limited resources, it is unrealistic to monitor everything that may or can change. We can however monitor key species or community types which are indicators of a healthy ecosystem. Monitoring of forest cover and community types, rare plant & animal species, insect and disease outbreaks and invasive species are the first step in assessing the ecosystem health of the Unit.

Action 1.5.1 Conduct periodic forest inventory of the State Forests within the Unit. The inventory will be updated prior to the 10 year plan update. Forest stands which will require any

silvicultural treatments will be analyzed prior to treatment and then be re-inventoried after treatment.

Action 1.5.2 Monitor Rare Species of special concern through efforts available through the New York Natural Heritage Program and develop an action plan as appropriate.

Action 1.5.3 Conduct annual insect and disease aerial surveys. As resources are available the Division will continue to conduct the aerial surveys for the entire state including this Unit.

Action 1.5.4 Monitor invasive species populations and encourage other partners or outside agencies to conduct periodic invasive species assessments of the Unit.

Action 1.5.4.1 When invasive species are found, work to eradicate the population where feasible by approved procedures. This may be accomplished through Regional staff, sales contracts or grant opportunities.

Action 1.5.4.2 Abide by all Federal and State restrictions and regulations as well as Departmental guidelines recommended in the SPSFM for the identification, prioritization and eradication of any invasive species found on the Unit.

Objective 1.6 Apply Forest Management Principals and silvicultural systems to maintain or enhance ecosystem health and biodiversity.

Sustainably manage this Unit in a manner that no forest resource is used or removed at a rate greater than the rate at which it is produced, so that the overall resources is maintained or improved. When actively managing forest ecosystems to promote biodiversity and produce forest products, foresters use two silvicultural systems which mimic natural disturbance patterns and help promote biodiversity. The two systems are referred to as even-aged and uneven-aged management.

Even-Aged Silviculture

Even-aged silviculture is a management system that maintains a forest stand where the trees are about the same age. This system is desired for creating periods of early successional habitat and other forest development stages beneficial to many plant and animal species. Even-aged silviculture will also promote **natural regeneration** of **shade intolerant** species such as black cherry, red oak, aspen and white ash. These trees species are also important mast (seed or nut) producers which many wildlife species depend upon for food. This system most often involves several intermediate thinning treatments in a stand over time and ends with a regeneration cut at a rotation age. Rotation age is the time between stand establishment and stand maturity with final regeneration harvest. In most cases **intermediate treatments** will have a **cutting interval** of 20 years in even-aged stands. At the end of the rotation, seed cuts are done to establish regeneration. Once the regeneration is established a **release** cut or **overstory removal** will be done to release the new stand of trees. Rotation age on the Unit will vary from 60 to 120 years. Regeneration of even-aged stands will be accomplished using one of three methods:

clearcut, **shelterwood** or **seed tree method**s.

The clearcut method is the removal of all trees in a stand at the same time. There are insufficient amounts of desirable advance regeneration present on the ground when the **overstory** trees are removed. After the removal of the overstory trees, seedlings become established in several ways. Trees in adjacent stands provide seed that will help establish new growth. The increased sunlight allowed to reach the ground will cause some seeds on the forest floor to germinate and establish new growth. **Coppice** regeneration occurs where some of the trees that are cut sprout at the stump and establish new growth. In clearcuts of two (2) acres and larger the Division of Lands and Forests Program Policy, "ONR/DLF-3 / Clearcutting on State Forests", will be complied with. In clearcuts of 20 acres and larger, **variable patch retention** will be practiced. Variable patch retention involves leaving patches of uncut trees and large individual trees in the clearcut area. The patches provide islands of forest cover as well as seed source in the middle of the clearcut areas. The number and size of patches retained will vary depending on the size of the clearcut. The individual trees and some of the trees in the patch retention areas may blow down over time; these blown down trees will provide two important benefits to the forest ecosystem. First, they will create course woody material on the forest floor. Second, they will contribute to the establishment of pit and mound micro-topography. This is especially important in plantations where past agricultural practices had eliminated the natural micro-topography.

The shelterwood method is the removal of all trees in a series of two to three treatments. The preparatory cut is done to prepare the **site** for the establishment of regeneration. Preparatory treatments are done to encourage the development of thrifty seed bearing trees, to eliminate undesirable trees or to accelerate the decomposition of favorable humus layers. The seed cut is done to establish regeneration; this involves a heavy cutting that will allow enough light to reach the forest floor and encourage the establishment of tree seedlings. The trees that remain provide seed source and shelter for the establishment of regeneration. The best quality timber trees in the stand are left for this purpose. Finally, the removal cut is done to release tree seedlings when they are established. Most all of the overstory trees are removed in this treatment and a new stand is created.

The seed tree method is the removal of all trees in a series of one or two treatments; this method is similar to the clearcut method except that a few individual trees or groups of trees are left to provide seed source. The remaining trees may or may not be removed once regeneration has become established.

Uneven-aged Silviculture

Uneven-aged silviculture is a management system that maintains at least three or more age groups ranging from seedlings and **saplings** to very large, mature trees; this system promotes a relatively continuous tree **crown** canopy, and can provide late successional habitat characteristics, such as large diameter trees, more dead or course woody material on the forest floor and greater live and dead snag trees. In many ways, uneven aged silviculture mimics the natural process by which older trees grow to maturity, die and are gradually replaced by young

seedlings and saplings. Uneven-aged management is commonly referred to as the **selection system**. The selection system uses two different methods, **single tree selection** and **group selection.**

Single tree selection is the selection of individual or very small groups of trees for harvest. Single tree selection tends to favor **shade tolerant** tree species such as hemlock, beech, and sugar maple. Many of these species are long lived. Through this system, a vertical layering of

tree **crown** canopy is created with each layer providing distinct habitat **niche**s; this maintains a relatively continuous tree crown canopy, which lessens the impact for plant and animal species that cannot tolerate substantial changes in their habitat.

Group selection is the selection of a group of trees up to 2 acres in size for harvest. This method is used to create openings for the regeneration of shade-intolerant species such as black cherry, red oak and white ash. Group selection allows for greater species diversity in uneven-aged stands.

Many of the uneven-aged stands in this Unit will be managed using a combination of single tree and group selection. Single tree and group selection treatments will occur every 20 to 30 years in uneven-aged stands. In these treatments, trees up to 25" in diameter may be left as residual crop trees. Some trees of unique characteristic and size will be left as **biological legacy trees** as determined by the forester and in compliance with the DEC Program Policy, ONR-DLF-2 / Retention on State Forests.

Action 1.6.1 Manage the Unit's forests using silvicultural treatments for all forest cover types at a total annual average harvest of 232 acres per year for the 20 year planning period.

Action 1.6.2 Maintain 35% of the Unit in a conifer component comprised of both planted and naturally reproducing **long lived conifer** species. Twenty two percent of the Unit will be maintained as a natural conifer type comprised mainly of stands containing hemlock trees. The remaining 14 % of the conifer type will consist of plantations with white pine being the major tree species.

Conifer trees provide a variety of special functions for many species of wildlife. Conifer forests moderate temperature extremes, which can help provide winter thermal cover, help moderate snow depth, provide shelter from wind and provide escape cover on a year-round basis. Conifer stands provide valuable habitat for many groups of wildlife species, including white-tailed deer, grouse, wild turkey and various species of raptors. In native eastern hemlock stands, the diversity of wildlife species increases with age. This is due to increased diversity of structural habitat in these older stands (DeGraff et al, 1989). For purposes of this assessment, long term conifers are **long lived conifer** species - specifically eastern hemlock and eastern white pine.

Long term conifer areas are forest stands where the management objective is to maintain at least 50% conifer species in the stand. Species of conifers that will be retained are hemlock and white pine. The long term objective as a guidance in DEC Region 7 has been to maintain a minimum of 20% of each State Forest in conifer cover. This Unit currently contains over 39% conifer cover type of the Units total acreage. This higher percentage of conifer type is due to the Unit's wet soils and transitioning into the Northern Appalachian/Acadian Ecoregion, which is more suited to naturally occurring forests of eastern hemlock, eastern white pine and red spruce.

This action reduces the current conifer percentage by 4 to 5 percent over the 20 year planning period. Approximately 2 percent, or 206 acres of white pine stands, of the 35 percent conifer type will be regenerated to naturally seeding of eastern white pine and mixed hardwood type. These treatments will focus on the better stands of white pine with the highest chances of regeneration success. All management of plantations will comply with the Department program policy ONR-DLF-1 / Plantation Management on State Forests (2011). More information on the Plantation Management policy can be found at http://www.dec.ny.gov/docs/lands_forests_pdf/policysfplantation.pdf .

Action 1.6.3 Convert 462 acres of conifer plantations, approximately 5% of the Unit, to natural hardwoods. This **conversion** will focus on the poorer plantation stands and species which are unlikely to regenerate naturally, such as red pine, spruce and larch. This conversion will require intermediate treatments to prepare the stands for proper regeneration and successful conversion to natural hardwoods. Successful conversion of the proposed acreage will require longer time than the 20 year treatment schedule.

Action 1.6.4 Manage 2,565 acres using the even-aged silvicultural systems.

Action 1.6.5 Manage 3,141 acres using the uneven-aged silvicultural systems.

Objective 1.7 Ensure compatibility of recreational activities and facilities with ecosystem sustainability.

State forests are best suited to low impact recreational activities that require a minimum amount of facility development and maintenance. Recreational activities shall not have negative impacts to rare species or ecological communities or cause degradation of the soil, water or vegetation resources on the Unit.

Action 1.7.1 Continue to allow existing compatible recreational uses on the Unit. Allowable compatible recreational uses can be found it the Strategic Plan for State Forest Management, Chapter 5.

Action 1.7.2 Evaluate future proposals for new recreational activities based upon their compatibility with the natural resources on the Unit. Recreational activities which are not compatible with ecosystem sustainability will not be allowed on the Unit.

Action 1.7.3 All development or maintenance of recreational opportunities will follow BMP and permitting guidelines while under construction.

Objective 1.8 Ensure compatibility of oil and gas exploration with ecosystem sustainability.

Any future development of oil or gas related facilities, including but not limited to, access roads, well pads and pipelines shall not impact rare species or ecological communities. Development of such facilities will be located to minimize impacts to the natural resources on the Unit. Areas identified in this plan for protection or designated as Natural Areas shall be excluded from surface development activities.

Oil or gas production from State Forest lands, where the mineral rights are owned by the state, are only undertaken under the terms and conditions of an oil and gas lease. Prior to any new leases, DEC will hold public meetings to discuss all possible leasing options, including: forgoing leases, leasing with no surface occupancy, and entering leases with proper environmental protections in place. The procedures and guidelines used by the NYS DEC Division of Mineral resources for the leasing process can be found in the SPSFM, Chapter 5, pgs 225-238.

Action 1.8.1 If an interest in oil or gas leasing on the Unit is shown, a hierarchical tract assessment will be conducted and a Public meeting will be scheduled for the purpose of gathering comments prior to any leasing decisions. The hierarchy is as follows:

Category A - Compatible with well pad, road, and utility development. Defined as areas compatible for pipelines, access roads, and associated well pad development. These areas are the least sensitive to surface disturbances and should be considered first for well placement to limit the overall impact of road and pipeline development. The intent is to focus as much of the surface disturbances as possible in this zone to reduce overall environmental impact.

Category B - Uneven Age Management Direction Areas with one well pad per State Forest. These areas will be managed to maintain or develop a high canopy forest through uneven-aged silvicultural methods. One well pad per State forest will be permitted in this category, unless otherwise approved by the Department. Only roads and pipelines that service the wells within this category will be permitted.

Category C - 250 foot stream and **designated recreational trail** buffers. Not compatible with well pad development; may be compatible with road and utility development.
This category includes the following:
- The 250 foot buffer zone on each side of all streams.
- The 250 foot buffer on each side of designated, signed recreational trails.

Category D – Protection areas - not compatible with well pad, road, or utility development.
This category includes:
- Wetlands including a 250 foot buffer around them.

- Slopes greater than 15%.
- Archaeological and cultural resource areas.
- Habitat for rare and **endangered species** (Natural Heritage database occurrences)
- Ponds including a 250 foot buffer around them.
- Natural Areas not related to buffers and slope.
- Spring seeps, vernal pools, and an appropriate buffer as described in the Division of Lands and Forests "Management Rules for Establishment of Special Management Zones on State Forests"

GOAL 2: Protect and Maintain the State Forest Assets and Visual Resources of the Unit

State Forest assets on this Unit include structures, boundary lines, trails, roads and any other infrastructure or objects. Many of these items need a periodic inspection to make sure they are still in working order, while others need regular maintenance to counteract wear of regular use. It is DECs intent to ensure that all assets on State Forests are adequately maintained to safely perform their intended function. *(SPSFM pg31)*

This Unit also includes many visual resources important to the public such as views of the reservoir, rivers, streams and surrounding forests. The importance of the visual resource and the public's perception will always be considered in the decision making and implementation of activities on this Unit.

Objective 2.1 Preserve and Protect Historic and Cultural Resources wherever they occur on the Unit

Historic and archaeological sites located on State Forests, as well as additional unrecorded sites that may exist, are protected by provisions of the New York State Historic Preservation Act (SHPA-Article 14 PRHPL), Article 9 of the Environmental Conservation Law, 6NYCRR 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). *(SPSFM pg141)*

Action 2.1.1 Follow all standard operating procedures for managing historic and cultural resources once developed and implemented as part of the SPSFM stated actions (HC Action 1).

Action 2.1.2 Implement a systematic and comprehensive archaeological inventory of the Unit as outlined in the SPSFM actions HC Action 2.

Action 2.1.3 Restrict the removal or disturbance of foundations, stone walls, or any other structure.

Objective 2.2 Maintain and enhance basic infrastructure which includes forest access roads, access trails, haul roads, trails, gates, boat launches, parking areas and associated appurtenances.

Action 2.2.1 Implement a standard process as identified in the SPSFM (pg 168) for assessing State Forest infrastructure needs and assign maintenance schedule priorities and budgets.

Action 2.2.2 Improve and grade the Hall Island PFAR.

Objective 2.3 Maintain Boundary lines to identify State property and prevent timber theft and encroachments

Action 2.3.1 Repaint boundary lines on a seven-year cycle utilizing the DECs Operations crews.

Action 2.3.2 Identify and complete survey requests through the Bureau of Real Property as priorities and budgets allow.

Objective 2.4 Maintain State Forest and other property identification or informational signs.

Action 2.4.1 Annually assess the condition of the State Forest's kiosks, identification and informational signs. Replace signs as needed or as priorities and budgets permit.

Objective 2.5 Maintain the natural, undisturbed viewshed of the land surrounding the Salmon River Reservoir.

The lands adjacent to the Salmon River Reservoir remain primarily undeveloped and similar to lands found in the primitive Adirondack Park. In recent years, with the divestiture efforts of National Grid, there has been an increase in private land development. Since the remaining lands surrounding the reservoir are owned either by DEC or the Brookfield Power, we have the opportunity to limit visual disturbance along the shore line.

Action 2.5.1 Apply a 300 foot viewshed protection buffer strip from the shore line of the reservoir on the Department lands of the Unit. This protection buffer will limit the management activities within the buffer to maintain an undisturbed view of the forest from the water. Any designated activity will be allowed only for the purpose of maintaining or improving the undisturbed character of the area surrounding the reservoir. Exceptions may include the placement of designated camp sites, salvage of timber from catastrophic events such as wind throw or tornados or any other unforeseen event, or actions necessary to address invasive species infestations. This buffer will be applied to stands not already protected thru other actions in this plan. See the Proposed Management Direction Maps found in the appendices.

Objective 2.6 This Unit will be managed so that the overall quality of the visual resources is maintained or improved.

Foresters manage many diverse aspects of a forest. Some aspects of forest management are easy to observe and measure, while others are more subjective and may not be measured easily. The visual resource aspect of forest management and the associated benefits to people fall into the latter category. When it comes to aesthetics, people hold different opinions--what may be aesthetically pleasing to some, may not be to others. Often, ecologically responsible management may not initially exhibit the most aesthetically pleasing results. State Forest management practices such as silvicultural and wildlife decisions take many considerations into account. Even so, the visual impact of some of these practices may not be kindly greeted by many people. While it is important for State Forest managers to consider the visual effects of their management actions with respect to recreation and public perception, the ecological health of State Forests must be paramount. *SPSFM, 2011, pg127*.

Action 2.6.1 Follow all guidelines, yet to be developed for visual impact assessment and mitigation around timber harvests, mineral extraction sites and infrastructure. The SPSFM has scheduled this guidance to be developed by 2013 and will include an updated Timber Management Handbook.

Action 2.6.2 Follow all visual resource protection requirements identified in the DEC policies for retention, plantation management and clearcutting.

Action 2.6.3 Construction materials which are aesthetically pleasing and complement the setting will be used for the construction of any necessary structures or barriers on the Unit.

Action 2.6.4 Place kiosks providing information on the Unit in locations where appropriate to reduce sign pollution by replacing multiple signs.

GOAL 3: Provide compatible recreational opportunities for people of all ages and abilities

The Upper Salmon River Unit has many recreational opportunities of varying types. As with all State Forests, the traditional, more primitive recreational actives such as hiking or hunting are readily available throughout this Unit. Most of the popular recreational activities on this Unit center around the Salmon River Reservoir during the warmer seasons of the year. The area is also a popular destination during the winter by snowmobilers due to the large amounts of lake effect snowfall the area receives.

The recreational resources which exist adjacent to the reservoir include, the Redfield Day Use Area, the Jackson Road Fisherman Access site, the Little America access with the primitive

camping sites, and scattered prime campsites, located along the shores of the reservoir. The remaining recreational facilities on the Unit include snowmobile trails, hiking trails, MAPPWD routes and parking sites for fishing or hunting.

With this Unit there has been no expressed demand for horseback riding or mountain bike riding on this Unit. It is anticipated the activity may occur occasionally as a very limited dispersed use on these state lands. It is assumed that the intense insect populations as well as distance from major population centers are factors in the limited demand for these activities in this area.

The Redfield Day Use Area is a heavily used area throughout the year. During the warmer months this area has been used for access to the water for trailered boats, personal water craft and car top boats such as canoes or kayaks. A concrete boat launch has recently been developed on the area, as well as a viewing platform specifically designed to provide universal access for fishing or sightseeing. This platform includes a railing system for safety purposes that is not intended for use as a dock for boat mooring. The area is also popular for picnicking, fishing and swimming. On popular pleasant weekends during the summer months there can be several hundred users converged on the site. Vehicular travel and parking is unrestricted on the island. Picnicking and partying often goes into the night. Vehicle and pedestrian use has been adversely impacting the site including contributing to accelerated reservoir bank erosion. Extensive unregulated vehicle traffic is compacting soils resulting in damage to the vegetation. Campfires are built making use of whatever wood can be found from the island. With no restroom facilities, one should take caution when walking in the small wooded patches. During the winter months the main parking lot is used for snowmobile trailers and is a main destination for access to the entire snowmobile trail system on the Tug Hill. The snowmobile corridor trail C5 runs through the area and uses an existing roadway which keeps snowmobiles off the county highway.

The Jackson Road Fishing Access site is primarily a boat launch for trailered boats. The area has a main parking area with a concrete boat ramp. The area is used primarily during the warmer season and minimally during the winter for ice fishing access.

Boating on the Salmon River Reservoir and the demand for access to the water has increased over the last 20 years. The Salmon River Reservoir has become a popular fishing and boating recreation area. The reservoir is home to a number of different warm water game fish species which attracts many boaters throughout the season. There has been an increased interest in the reservoir by local fishing clubs for tournaments or club outings. The public lands surrounding the reservoir also provide primitive camping sites accessible only by boating, which are popular during the warmer season for camping. Additionally, there is an increase in private land ownership adjacent to the Erie Boulevard Hydropower lands lying within the FERC jurisdiction which may have land use agreements allowing low impact access, such as docks, but no permissions for personal boat launch development. Due to the increase demand, maintaining public access for boaters remains important for the users of the Unit. The existing boat ramps located on the Unit have no docking facilities. The reason for not having docks is

due to the fluctuating reservoir water levels which can potentially recede 6 to 8 feet over the course of the summer. The drop in water level by a few feet can cause docks to be impractical to use.

Primitive camping along the Salmon River Reservoir has been a popular destination for campers for well over 25 years. The popularity has been increasing as more people become aware of the recreational opportunities offered on State land. The vast majority of camping occurs by boat access to the more remote areas of the reservoir. There are also locations accessible by car where sites have been developed by campers. All of the current sites are primitive with no amenities such as picnic tables or restroom facilities. The more popular sites are more apparent with paths, rock fire rings and areas for tents. This has occurred from normal use of campers and no improvements have been made by the Department. The less popular sites are smaller in size and not as noticeable.

The Little America area includes a parking lot, car top boat launch and primitive camping sites. There are presently a number of camping sites along the reservoir shore in this general area that have been created by users with no input from the Department. Due to the popularity of the area it is important to maintain acceptable use levels, protecting from misuse or overuse adversely impacting the area.

The camping sites near or adjacent to the shore line are located on either Erie Boulevard Hydropower lands, or on State land. The private lands near the reservoir are primarily being developed as summer camps and at present there are no private campgrounds near the reservoir. Many of the campsites that are lower or closer to the water's edge are on the Erie Boulevard Hydropower lands within the FERC line. These sites fall under the jurisdiction of the power company and should comply with their land use policies. The sites further away or higher from the water's edge may be in State ownership and fall under this planning document.

The common property boundaries between the Erie Boulevard Hydropower FERC land and State lands vary in distance from the shoreline and have not been surveyed or identified on the ground. This lack of clear delineation can cause confusion by the public as to who owns the specific campsite and what, if any, restrictions may apply. Also it is unlikely that many of the users even know there may be a difference in ownership or regulations. The power company's current land use policy concerning camping on the Salmon River Reservoir allows for camping "at designated sites only and only to those with a valid NYSDEC camping permit. (Brookfield Renewable Power, 2009) NYSDEC does not presently issue camping permits for those individuals or parties camping on non DEC regulated lands.

Snowmobiling is also a very popular activity on the Unit due to the abundance of snow fall. The Unit contains almost 17 miles of snowmobile trails. These trails are maintained by two different snowmobile associations under the Adopt A Natural Resource Agreement. Trail maintenance or improvements are primarily done by the respective associations.

Two State Forests of this Unit have developed foot trails. The Hall Island State Forest contains the longest foot trail system, totaling 10.8 mile in length that was developed in 1994. The trail system has seen little use in part because its presence is not well known. The second trail system is found on the Salmon River State Forest on Coey Hill. This system was developed in conjunction with a local cross country ski center which had maintained the trails for cross-country skiing under a Temporary Revocable Permit. The cross country ski center is at no longer in business.

There are currently three separate MAPPWD Routes found on the Unit. They are located on the Salmon River, O'Hara and West Osceola State Forests. Two of the routes, located on the Salmon River and West Osceola State Forests are old Town roads and open to public vehicle traffic, as such they currently do not meet the criteria for MAPPWD route designation. The route found on the O'Hara State Forest is gated and approximately 0.8 of a mile in length.

This Unit also contains 14 separate parking areas of varying sizes. The more developed areas provide parking for ten or more vehicles for access to the Salmon River Reservoir. The remaining sites are smaller in size and provide parking for fisherman access sites along rivers and streams, MAPPWD routes or general access to the State Forest.

The demand for recreational opportunities has increased as the area has become developed and more popular. As the need for recreational opportunities increases, so does the State's responsibility to provide and maintain compatible opportunities, while protecting the important natural resources that draws the users to the area. Due to limited State funds or

staffing the Department will need to rely more upon local volunteers for help in providing these recreational resources. Without this help, the Department may be forced to reduce or close certain recreational opportunities due to lack of maintenance.

Objective 3.1 Insure sustainable use of recreational opportunities.

As stated above, this Unit includes a number of recreational opportunities which have been developed and currently exist. This objective focuses on the tasks needed to maintain the current opportunities and lessen problems or conflicts which exist while protecting the environmental integrity of the Unit.

Action 3.1.1 Restrict vehicle access on portions of Redfield Island Day-Use Area by blocking off the access road through the day-use area with gates. This is an effort to minimize site degradation, shoreline erosion and discourage illegal camping and night time parties at this location.

Action 3.1.2 Continue partnering with the Redfield Snowmobile Association to help maintain the area by mowing and litter pickup through volunteer agreement. If maintenance of the area becomes an issue, other actions may be taken to address needs, which could include further restricting use, or even closing the area.

Action 3.1.3 Continue to maintain the Redfield Island Day Use Area's main parking lot for snowmobile trailer parking by allowing plowing through a Temporary Revocable Permit with the Town of Redfield.

Action 3.1.4 Block off access to reservoir at the small pull-in west of the car top launch parking area near to the intersection of County Route 17 and 27 and Waterbury road.

Action 3.1.5 Allow the maintenance of 2.2 miles of trails, on the Salmon River State Forest's Coey Hill, for cross country skiing through a TRP if a new ski center is established. If no business or volunteer group comes forward to maintain the trails they will no longer be designated as trails or maintained by the Department.

Action 3.1.6 Encourage volunteer partnerships to maintain 10.8 miles of foot trails on the Hall Island hiking trail south of the Salmon River Reservoir. If volunteers are not located to properly maintain the trail system the trails will be discontinued.

Action 3.1.7 Maintain two existing concrete boat ramps, one at Jackson Road access site and the other at the Redfield Island Day Use Area.

Action 3.1.8 Designate the following areas as car top boat launch only areas: Hall Island SF next to the bridge on County Rte 17, the Little America access site, and the culvert site south of Hall Island peninsula.

Action 3.1.9 Limit the number of campsites on State Forest or Conservation Easement land within the 300 foot visual protection buffer along the reservoir shoreline to no more than 20 designated sites. Current sites within the 300 foot area should be evaluated for use prior to designation. These 20 designated sites will include four (4) located at the Little America site, five (5) located on the Conservation Easement lands of the Islands, and the remainder spread out around the reservoir.

Each site will be evaluated to determine if it is suitable for use and if so what improvements may be needed. These sites will then be designated and signed by number within 300 feet of the reservoir shoreline. Camping on DEC and Conservation Easement lands within 300 feet of the reservoir will only be allowed at DEC designated sites. Standard DEC State Forest camping policies apply where stays longer than three days and/or groups of ten or more are required to first obtain a camping permit from the Forest Ranger.

To control the anticipated increase in use and the potential for unauthorized and inappropriate sites being developed, these specific management measures will be required to protect the primitive / undeveloped character of the area. This will ensure that the view shed not be negatively impacted with unauthorized campsites being established. These designated sites will also help in enforcement efforts as well as identifying to users what sites are available and to be further portrayed in brochures of the area.

Action 3.1.10 Encourage volunteers to annually inspect the designated campsites on the Unit and maintain as needed. If sites are not adequately maintained further restriction may be incorporated including closing of designated sites.

Action 3.1.11 Continue ongoing partnerships with local snowmobile Associations to maintain and improve 16.8 miles of snowmobile trails by issuing Temporary Revocable Permits (TRPs).

Action 3.1.12 Highlight volunteer programs to encourage and work with individuals or volunteer groups which are willing to help maintain and enhance recreational assets on the Unit.

As previously stated, the State's ability to provide the needed funds and staffing to adequately maintain or improve the recreational facilities is limited. Help from volunteers can be instrumental in improving, maintaining or preventing closure of recreation facilities.

Action 3.1.13 Continue to allow dispersed recreation activities for which no trails or amenities exist or will be provided, such as hunting, trapping, horseback riding and mountain biking.

Objective 3.2 Enhance sustainable use of recreational opportunities

Outdoor recreation opportunities are important to the visitors of this Unit. Participating in and enjoying these outdoor activities often helps us to appreciate and understand nature better. However, repeated use of the land for recreational purposes can have significant impacts. To minimize these impacts it is necessary to plan, monitor and manage the recreational use of this Unit. Based upon public input and observed demands, actions have been planned which will improve and control recreational use to increase users enjoyment while protecting and maintaining the natural resources.

Special area regulations for the State Forest and Conservation Easement properties around the Salmon River Reservoir are needed to be instituted into Environmental Conservation Law to address problems and protect attributes in the area. Redfield Island is very popular during the summer months with the majority of visitors using the area for picnicking and access to the reservoir. Some of the picnickers like to barbeque their food and would build open fires. These open fire pits have become unsightly with large amounts of litter and refuse left in or near the pits. The size of the pits had also become larger, which in turn encourages larger and larger fires. Open fire pits also require firewood and the area has little to no dead or downed wood.

This lack of natural firewood entices users to cut live trees illegally. The area has also been an attractive location to camp overnight or have parties. Prior to the State's ownership there were times when the area would be filled with campers, leaving little room or access for others.

There has also been reported on numerous occasions, after-hours parties involving large amounts of alcohol and under-aged drinking. To control this unwanted use of the Redfield Island Day Use Area, the area will be closed from sunset to sunrise with exceptions for fishing or boat launching.

Special area regulation aid in the enforcement of needed rules and policies established in this UMP and not already included in regulations. Issues that need special rules include:

- Designate the State lands of Redfield Island as a Day Use Area.
- Domestic animals can be a problem if not properly controlled by their owners. Special regulations are needed to insure proper controls of pets.
- Action 3.1.9, as current regulations restrict camping within 150 feet of a road, trail or body of water. This change would need to be in regulation in order to enforce.
- Target shooting is a safety concern in high use recreation areas, additionally with target shooting there is often issues with litter and damage to trees. This activity should be restricted in high use areas.
- For safety purposes and to reduce site degradation campfire will be restrict to fire rings only, except on Redfield Island where campfires will be prohibited to control the negative effects of the open fire pits. On Redfield Island visitors would still be allowed the ability to barbeque in self-contained grills.
- Launching of boats has been done in a number of places and resulting in vehicle use across DEC lands on undesignated sites and onto the Erie Blvd Power Company lands within the FERC.
- Parties have at time extended into the late hours disturbing other area visitors. Quiet hours are needed to enforce people to be considerate of others.

Action 3.2.1 Implement the following Special Area regulations on all State lands and Easements within 300 feet of the Salmon River Reservoirs high water shoreline into ECL.
As described earlier, the reservoir receives concentrated recreational use especially along its shoreline. One of the Salmon River Reservoir's unique qualities is its relatively undeveloped shoreline. The visual impacts along the shore need to be protected while allowing traditional recreational uses. To accomplish this, an area 300 feet from the shore has been focused on to have special controls or regulations. The following regulations should help reduce negative impacts to the most used and visible areas adjacent to the reservoir.

Proposed Regulations:

- Designate Redfield Island as a Day Use Area. Redfield Day Use Area is described as: The property located north of the County Route 17 Bridge, crossing the Salmon River Reservoir, bounded on the west and north by the reservoir shore line and County Route 17 to the east. This action will reduce adverse impacts to the site and reduce

enforcement and maintenance demands on the Island. The area is closed from sunset to sunrise with the exception of the snowmobile season and for those actively fishing or utilizing the boat launch for launching or loading of boats. The problems this designation will address include night time partying and overnight camping.

- On Redfield Island Day Use area open fires are prohibited except in self-contained grills.
- Camping on DEC Lands and Conservation Easement lands around the reservoir will only be allowed at DEC designated sites within 300 feet of the reservoir's high water shore line.
- Campfires at the designated campsites may only be established in the fire ring at site.
- Target shooting is prohibited within 300 feet of reservoir.
- Domestic animals must be under the complete control of their owner/handler within 300 feet of the reservoir. Pets cannot be left unattended. Disruptive or vicious animals must be immediately removed from the area. The owner/handler must properly dispose of the animal's excrement and food waste.
- Boat launching from a trailer by way of DEC lands is permitted only from the developed, designated boat launches.
- Quiet hours shall be observed from 10pm to 7am.

Action 3.2.2 Improve picnic areas and install up to 8 picnic tables as needed at the Redfield Island Day Use area as resources allow.

The day-use area has had a long history of picnic usage on the area where users will bring their own chairs or tables and spend the day picnicking and enjoying the reservoir. Since vehicle access will be restricted (Action 3.1.1) there will be a demand for picnic tables since it would be difficult to carry all the needed items such as tables and chairs to the areas adjacent to the water.

Action 3.2.3 As finances allow, provide an accessible Port-A-Pottie facility on the Redfield Island Day Use Area.

Facilities are needed due to the high public use of the area. Construct a structure to aesthetically house the potties. Contract out rental and the maintenance of the facility from mid May through mid September as resources allow. If sanitary conditions become unmanageable, the site will need to be closed.

Action 3.2.4 Construct a small parking area on Redfield Island Day-use Area, north of the bridge on County Route 17. This parking area will improve safety for snowmobile traffic, further restrict off road damage by vehicles and provide shorter foot access to the southern portion of Redfield Island.

Action 3.2.5 Allow the south shore snowmobile trail to continue in compliance with protection goals by relocating a portion of the trail to higher ground and away from a wetland and a known bald eagle nesting area. Coordinate with Redfield Snowmobile Association to help complete the project.

Action 3.2.6 Widen and remove blind curves on south shore snowmobile trail by removing trees and leveling with bulldozer. Coordinate with Kasoag Trail Blazers Snowmobile Association to complete the project.

Action 3.2.7 Develop small connector foot trails from the Hall Island trail system to some of the designated camping sites along the reservoir shoreline.

Action 3.2.8 Request Permission from Erie Boulevard Hydropower to install one mooring post located adjacent to concrete ramps at each boat launch. Also install "No Mooring" signs on ADA viewing platform located on Redfield Island.

The existing boat ramps located on the Unit have no docking facilities. The reason for not having docks is due to the fluctuating reservoir water levels which can potentially recede 6 to 8 feet over the course of the summer. The drop in water level by a few feet can cause docks to be impractical to use. With the lack of a dock there is a need be able to tie boats off to a secure location for temporary mooring while the boaters park or retrieve their vehicle and trailer.

The launch at Redfield is located close to the ADA viewing platform. Since the launch and platform installation, there has been an ongoing problem of boaters using the platform as a place to moor their boats. This is not an appropriate use of the platform due to the fixed railing around it, and the intended use for the ADA viewing and fishing access.

Action 3.2.9 Encourage the establishment of a formal cooperative management agreement between NYSDEC and Erie Boulevard Hydropower L.P. (EBH) which would include a comprehensive camping plan for the FERC lands adjacent to the Salmon River Reservoir.

As stated previously, all of the shoreline property surrounding the Salmon River Reservoir, commonly known as FERC lands, is owned by EBH who is the holder of the FERC license for the Salmon River Hydroelectric Project. This property includes many of the currently used campsites adjacent to the reservoir. The EBH Land Use Policy for this area addresses their camping concerns by working on developing a plan which allows the DEC the ability to issue permits, as well as other enforcement authority associated with camping and public use. In order for the Department to have this authority on EBH lands an agreement would need to be established. While developing this plan the following recommendations were developed which should be considered in this management agreement.

- Grant NYSDEC enforcement authority on FERC lands adjacent to State land.
- Limit the number of campsites to no more than 15 designated sites.
- Restrict vehicle access to the reservoir shoreline.
- Permit the installation of mooring posts at the boat launches.
- Allow maintenance of foot bridges, developed by the Department, located within FERC.
- Allow access across and maintenance of the large concrete culvert.
- Allow permission to control invasive species if determined critical to ecosystem health and feasible.

Action 3.2.10 When practical, the department will secure log landings to be accessible by the public for parking.

Objective 3.3 Provide recreational opportunities that are universally accessible and comply with the Americans with Disabilities Act.

Application of the Americans with Disabilities Act (ADA)
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 requires, in part, that reasonable modifications must be made to the services and programs of public entities, 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.

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. This UMP incorporates an inventory of all the recreational facilities or assets supporting the programs and services available on the unit, and an assessment of the programs, services and facilities on the unit to determine the level of accessibility provided. In conducting this assessment, DEC employs guidelines which ensure that programs are accessible, including buildings, facilities, and vehicles, in terms of architecture and design, transportation and communication to individuals with disabilities. A federal agency known as the Access Board has issued the ADA Accessibility Guidelines (ADAAG) for this purpose.

An assessment was conducted, in the development of this UMP, to determine appropriate accessibility enhancements which may include developing new or upgrading of existing facilities or assets. The Department is not required to make each of its existing facilities and assets accessible so long as the Department's programs, taken as a whole, are accessible. New facilities, assets and accessibility improvements to existing facilities or assets proposed in this UMP are identified in the Proposed Management Actions section.

For copies of any of the above mentioned laws or guidelines relating to accessibility, contact Carole Fraser, DEC Universal Access Program Coordinator at 518-402-9428 or UniversalAccessProgram@dec.ny.gov

Universal access will be provided unless it fundamentally alters the character or recreational programs of the area. This objective strives to maximize accessibility while protecting the natural setting to the greatest extent possible, thereby preserving the fundamental experience for all. A minimal tool approach will be used to implement this vision, resulting in projects that

blend into the natural environment and protect the landscape.

There is currently one MAPPWD trail for people holding a valid MAPPWD permit located on O'Hara State Forest. There is also an ADA compliant viewing & fishing pier with appropriate parking located next to the boat launch at the Redfield Island Day Use Area.

Action 3.3.1 Maintain the ADA parking area and viewing platform on Redfield Island Day Use Area.

Action 3.3.2 Provide one ADA compliant picnic area on Redfield Island Day Use Area.

Action 3.3.3 Provide an ADA compliant platform to access watercraft at the Redfield Island Day Use Area.

Action 3.3.4 Provide two ADA complaint campsites on the Unit adjacent to the Reservoir and accessible by vehicle. ADA sites will include hardened level parking, tent site and fire ring site.

Action 3.3.5 Install gate and a two car and trailer parking area on Oswego #8—Salmon River State Forest at the entrance of Harpers Ferry access road and designate the restricted road as a MAPPWD route of 1 mile.

The gate will block off an existing access road. The road has been open to public vehicle use and was previously designated as a MAPPWD route. The trail was then undesignated due to the MAPPWD requirement of having the trail be restricted to public motor vehicle use. This action would properly restrict the access and allow for adequate parking to allow the trail to be designated again for MAPPWD use. It is planned that this work can be accomplished in conjunction with a timber sale as sale related work.

Action 3.3.6 Maintain two MAPPWD trails, gates, signs and parking areas located on the O'Hara and Salmon River State Forests. The combined total trail miles for these two trails are 1.8 miles.

Action 3.3.7 Remove the MAPPWD designation on the Casio Road and leave the road open to public vehicle access.

The Casio Road is an abandoned old town road which continues to be used by the public and is currently designated as a MAPPWD trail. The road receives use throughout the year and is also a designated snowmobile trail. Since the Department does not plan on restricting access to the road the MAPPWD designation will need to be removed and public motor vehicle use will continue to be allowed.

Objective 3.4 Provide and enhance information on the Unit.

This Unit contains numerous recreational opportunities that can be utilized throughout the year at various locations. Some of these opportunities may not be known or apparent to the general public. Each of the opportunities may also have specific rules or regulations not explained to the public. Clear and up to date information is needed to help guide the Units users as to where the opportunities exist as well as the areas restrictions or regulations. This will improve the public's use of the Unit as well as protect the resource from inappropriate or misuse from occurring.

Action 3.4.1 Develop and install kiosks describing the recreational opportunities of the Unit including Redfield Island Day Use Area, designated camping facilities, trails, access points and rules and regulations for State lands adjacent to the Salmon River Reservoir. This will include one major kiosk at Redfield Island Day Use Area and four minor kiosks located at the different access areas to the reservoir.

Action 3.4.2 Develop and install two State Forest kiosks which would describe the State Forests in that vicinity, as well as the areas rules and regulations. One would be for the lands north of the Salmon River Reservoir and the second would cover the lands south of the reservoir.

Action 3.4.3 Develop brochures describing the camping areas around the Salmon River Reservoir in both a digital and printed format.

Action 3.4.4 Develop area specific information and maps to be available on the Department's web page.

Objective 3.5 Address concerns and demand for Off-Highway and All-Terrain Vehicle use on the Unit.

As stated in the SPSFM, off-road motorized recreational activities have grown in popularity over the past two decades. These include four-wheel drive vehicles (also referred to as off highway vehicles or OHVs), ATVs, UTVs and off-road motorcycles. For the discussion of these various vehicles in this plan we will collectively refer to them as OHVs and ATVs. Impacts and issues associated with OHVs are much the same as those associated with ATVs, therefore for the purpose of this plan, DEC policy as regards State Forests will be applied to both vehicle types alike.

Some people own and operate these types of vehicles as a relatively benign means of conveyance to access programs like hunting and fishing. Many off-road enthusiasts, however, enjoy a riding experience that includes characteristics such as challenging mud holes and steep hill climbs, as is often depicted in ATV manufacturer ads and on ATV club web pages. As described in the SPSFM, those types of uses, as well as other attributes of ATV use, are not compatible with State Forest management goals and cannot be successfully managed on State Forest lands.

The SPSFM has stated the following State Forest ATV Policy:

"The mission of the DEC Division of Lands and Forests is "to care for and enhance the lands, forests and natural resources in the State of New York for the benefit of all through the care, custody, and control of State-owned lands, and promotion of the use and protection of all natural resources." This is a broad mission which reflects that DEC has many other responsibilities beyond satisfying public recreation desires. Rather, recreation opportunities are provided on DEC lands that are compatible with other multiple uses and the ecosystem management approach described previously in this plan."

Upon evaluation of past efforts to accommodate ATV use and the many impacts and constraints associated with off road vehicles, ***the Department will not permit ATV use on State Forests, except;*** *as may be considered to accommodate a public " connector trail" through the Unit Management Planning process, and; on those* ***specific routes designated for use by DEC-issued Motorized Access*** *Permit for People with Disabilities (MAPPWD).*

Action 3.5.1 Limited ATV use will be accommodated via consideration of opportunities to enhance access to State Forest recreational programs under DEC's MAPPWD program in this Unit for this planning period.

Action 3.5.2 No ATV connector trail development will be allowed on the Unit for this planning period.
The Unit Management Planning process is the best avenue to consider all uses and obtain public input and comment on potential uses and or conflicts including ATV use. Since there were no specific requests for public connector trails in the scoping meeting, consideration will not be given to such routes.

Objective 3.6 Support the traditional recreational uses of state land which include hunting, fishing, trapping, orienteering and viewing of natural resources.

Hunting, fishing, trapping, orienteering and viewing natural resources are all popular recreational opportunities which occur on the Unit. These activities require little or no improvements for their continued use.

Action 3.6.1 Permit all hunting, fishing and trapping opportunities on the Unit as the NYS Fish and Game laws permit.

Goals 4: Provide Economic Benefits to the People of the State

New York's public and private forests contribute over $8.8 billion annually to the State's economy (North East State Foresters Association, 2007) through forest-based manufacturing and forest-related recreation and tourism. State forests make important contributions to these economic categories resulting in economic benefits to local communities and their larger surrounding areas.

Objective 4.1 Provide a steady flow of forest products.

Action 4.1.1 Treat an average of approximately 230 acres each year through timber sales. Timber sold from the Unit will be purchased by businesses for manufacturing products such as construction lumber, paper, flooring, furniture, veneer, utility poles, pallets and fuel wood. Acres treated will be dependent upon staffing and suitable markets.

Action 4.1.2 Provide maple tapping opportunities on three (3) forest stands which have been identified to potentially be considered for producing maple sap. As potential requests are evaluated each stand would also need to be confirmed as to its possible use for sap production. Guidelines used to determine which stands may be acceptable for leasing for sap production have been described in the SPSFM. These guidelines consider other forest users, access limitations, site class and species composition. A listing of the State Forest and stands identified for this action can be found in Appendix IX - Upper Salmon River Unit Potential Stands for Maple Sap Production.

Objective 4.2 Provide Property Tax Income to Local Governments and Schools.

Action 4.2.1 Maintain annual tax payments to local governments and schools.
The State provides annual payments of approximately $386,650 (2010 data) in combined town, county and school taxes on the lands in this Unit. See Appendix VII for additional information.

Objective 4.3 Provide for natural gas and other mineral resource exploration and development while protecting natural resources and quality recreational opportunities.

Natural gas and other mineral resource extraction, exploration or development activities will follow procedures described in the Generic Environmental Impact Statement (GEIS) on oil, gas and solution mining regulatory Program and the Supplemental SGEIS (when appropriate and following adoption) and the NYS Strategic Plan for State Forest Management, Chapter 5, pgs. 225-238. To the extent that the Department adopts regulations pertaining to High-volume hydraulic fracturing natural gas extraction would also be subject to the conditions contained therein.

Action 4.3.1 If lands are nominated for leasing of extraction rights a hierarchical tract

assessment process, as described in Action 1.8.1, will be conducted by the NYS DEC Division of Lands & Forests to determine if a lease may be granted and if so what conditions will be placed in the lease.

Objective 4.4 Provide support to local communities through forest-based tourism.

Revenues to New York businesses from forest-related recreation and tourism activities totaled $1.9 billion in 2005 (North East State Foresters Association, 2007). Recreation activities associated with State lands, such as trapping, hunting, boating, fishing and snowmobiling, contribute to the local economy through the participant's purchase of supplies, food and lodging.

Action 4.4.1 Develop cooperative partnerships with organizations individuals or communities to sustain or enhance forest based tourism activities that are consistent with this plan and State forest rules and regulations. Volunteer programs will be used to formalize such partnerships. The Department will also support approved volunteer activities that are consistent with the goals and objectives of this plan.

Action 4.4.2 Promote public awareness through kiosks, brochures, and Department website development to be utilized by local communities.

Action 4.4.3 Increase awareness that the traditional sporting activities of hunting, fishing and trapping are permitted and occurring on State Forests. This will be done by emphasizing these activities on Department provided information such as web site material, brochures and area kiosks for this Unit.

The sporting activities of hunting, fishing and trapping are important to the local residents and communities. There are many local businesses that gain income by providing goods and services to the numerous sportsmen and sportswomen who enjoy these outdoor activities. Trapping is also a sport with a direct economic benefit to the trappers as well as others who buy and sell the furs caught by trappers.

Objective 4.5 Protect rural character and provide ecosystem services and open space benefits to local communities.

The presence of State lands maintains the rural character of much of New York State. Undeveloped lands provide ecosystem services such as wildlife habitat, clean water and clean air. They also provide open space benefits such as public recreational opportunities and places for relaxation and escape from the disruptions and stresses associated with urban areas.

Action 4.5.1 The Department would pursue possible purchases of lands, from willing sellers only, in fee or through conservation easement parcels (in-holdings and parcels bordered on two

or three sides by State lands) that will consolidate State ownership or protect at-risk species or ecological communities. Acquisition of such lands will improve public and administrative access and provide larger consolidated blocks of State land for improved protection of rare species and enhanced recreational opportunities. For more information on the Departments land acquisition priorities please refer to the SPSFM page 149 at http://www.dec.ny.gov/lands/64567.html.

XII. MANAGEMENT ACTION SCHEDULES

A. Key to Land Management Action Schedules

The following table shows the 20-year schedule of planned management actions referenced by stand number and treatment period. Maps showing the specific stand locations are available for viewing at the Department's Cortland office. Maps of existing and proposed management are included in Appendix XII. Abbreviations used in the management table are listed below.

Please note: Stand acreages in the following tables were generated by GIS computations which potentially could vary as much as 1.5% from land record or deed acreages. These differences could be caused by cumulative errors in deed or GIS calculations, and/or rounding errors. This slight variation does not affect management decision making.

Forest Type Codes:	**Definition:**
10	Natural: Northern Hardwood
11	Natural: Northern Hardwood-Hemlock
12	Natural: Northern Hardwood-White Pine
15	Natural: Swamp Hardwood
20	Natural: Hemlock
21	Natural: White Pine
40	Plantation: Red Pine
41	Plantation: White Pine
42	Plantation: Scotch Pine
45	Plantation: Norway Spruce
46	Plantation: White Spruce
47	Plantation: Japanese Larch
60	Plantation: Red Pine-White Pine
63	Plantation: White Pine-Spruce
68	Plantation: Bucket Mix
70	Plantation: Pine-Natural Species
71	Plantation: Spruce-Natural Species
97	Natural: Seedling-Sapling
99	Non-forest

Tree Species:	Definition:
ASP	Aspen, Bigtooth or Quaking
BSWs	American Basswood
BC	Black Cherry
BE	American Beech
BF	Balsam Fir
BL	Black Locust
BlBe	Blue Beech
Cotw	Eastern Cottonwood
DF	Douglas Fir
ELM	American Elm
EL	European Larch
HEM	Eastern Hemlock
HM	Sugar (Hard) Maple
Iwd	Ironwood (hophornbeam)
JL	Japanese Larch
JP	Jack Pine
NS	Norway Spruce
PC	Pin Cherry
RM	Red (Soft) Maple
RO	Northern Red Oak
RP	Red Pine
RS	Red Spruce
SHR	Tall Shrub
SP	Scotch Pine
Str.M	Striped Maple
TAP	Thornapple
Wapl	Wild Apple
WA	White Ash
WC	Northern White Cedar
WP	Eastern White Pine
WS	White Spruce
YB	Yellow Birch

Size Class/DBH:	Definition:
S-S	Seedling-Sapling; trees up to 5" diameter at breast height
PT	Poletimber; trees 6"-11" diameter at breast height
SST	Small Sawtimber; trees 12"-17" diameter at breast height
MST	Medium Sawtimber; trees 18"-23" diameter at breast height

Management Codes:	Definition:

ADM	Administration (Roads, Parking etc.)
EA	Even-aged
EAES	Even-aged Early Successional 60 Year Rotation
PA	Protection Area
UA	Uneven-aged

Treatment Codes:	**Definition:**
TCT	Intermediate Commercial Thinning
TG	Group Selection
Treatment Codes:	**Definition:**
TGST	Single Tree and Group Selection
TNO	No Treatment Recommended
TP	Regeneration Cuts for Wildlife
TSI	Timber Stand Improvement
TSS	Shelterwood/**Seed Tree Cut**
TST	Single Tree Selection

Treatment Period	**Years**
A	2012 through 2016
B	2017 through 2021
C	2022 through 2026
D	2027 through 2031
E	2032 through 2036

B. Land Management Action Schedules

The following are tables showing the individual forest stand identifier along with associated forest inventory information including planned management actions and objectives for each stand.

Oswego #8

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1.1	6.3	11	MST	HEM	RM	BC	PA	TNO	11		0
A-1.2	17	10	SST	HM	RM	BC	UA	TGST	10	D	17
A-1.3	10.2	11	SST	HEM	RM	YB	PA	TNO	11		0
A-1.4	13.4	11	SST	HEM	RM	YB	PA	TNO	20		0
A-1.5	79	10	SST	HM	YB	RM	UA	TGST	10	D	77
A-2.1	13.3	11	SST	HEM	RM	YB	PA	TNO	11		0
A-2.2	59.8	11	SST	HEM	RM	YB	PA	TNO	11		0
A-3	7.1	40	SST	RP	RM	HM	EA	TCT	10	A	7
A-4	3	47	PT	BC	JL	RM	EA	TSS	10	A	3

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-5	44	11	SST	HEM	RM	HM	PA	TNO	11		0
A-6	13	10	SST	RM	YB	BC	EA	TSS	10	A	13
A-7	12.9	10	SST	HM	YB	BE	EA	TCT	10	A	12
A-8	0.9	97	S-S	RM	BC	APL	EA	TNO	10	E	0
A-9	10.3	47	MST	JL	BC	RM	EA	TCT	10	A	10
A-10	7.8	70	PT	BC	RM	WA	EA	TCT	10	A	7
A-11.1	15.8	60	SST	WP	RP	RM	EA	TSS	70	A	15
A-11.2	11.8	41	SST	WP	RM	RP	EA	TCT	70	A	11
A-11.3	2.4	10	PT	RM	ASP	WA	EA	TCT	10	A	2
A-12	24.3	11	PT	RM	BC	HEM	PA	TNO	11		0
A-13.1	3.8	41	SST	WP	RM	BC	PA	TNO	41		0
A-13.2	5.6	40	SST	RP	WP	BC	PA	TNO	40		0
A-14	6.1	70	PT	RP	RM	WP	PA	TNO	70		0
A-15.1	121.1	10	PT	HM	YB	BC	UA	TGST	10	C	120
A-15.2	5	10	SST	HM	BC	HEM	UA	TGST	10	D	5
A-16	12.7	11	SST	HEM	RM	YB	PA	TNO	11		0
A-17	19.5	10	SST	RM	HM	WP	PA	TNO	12		0
A-18	39.6	10	MST	HM	BE	WA	UA	TST	10	C	38
A-19	63	10	SST	HM	WA	RM	UA	TST	10	C	40
A-20.1	13.3	11	SST	HEM	YB	HM	PA	TNO	20		0
A-20.2	38.6	11	SST	HEM	YB	HM	PA	TNO	20		0
A-21	24.6	10	SST	HM	YB	WA	UA	TGST	10	D	23
A-22	49.4	11	SST	RM	HEM	HM	UA	TGST	11	B	47
A-23	5.6	70	SST	RP	BC	HM	EA	TCT	70	B	5
A-24	13.8	10	PT	RM	HM	RS	EA	TCT	10	B	13
A-25	33.8	10	SST	HM	RM	BC	UA	TGST	10	B	33
A-26	53.2	11	SST	HEM	RM	YB	UA	TGST	11	B	47
A-27.1	46.8	60	SST	WP	HEM	RP	EA	TCT	70	A	41
A-27.2	10	70	SST	BC	RM	HEM	PA	TNO	70		0
A-711.1	2.1	99					ADM	TNO	99		0
A-711.2	7	99					ADM	TNO	99		0
A-711.3	1.3	99					ADM	TNO	99		0
A-711.4	1.6	99					ADM	TNO	99		0
A-711.5	1.7	99					ADM	TNO	99		0
A-722	1	99					ADM	TNO	99		0
B-1	27.6	11	PT	HEM	RM	YB	PA	TNO	11		0
B-2	9.5	99					PA	TNO	99		0
B-3	40.3	10	SST	HM	RM	BC	EA	TSS	10	C	40
B-4.1	13.2	45	PT	NS	HM	WP	EA	TP	71	A	13
B-4.2	1.5	45	SST	NS			EA	TP	71	A	1
B-5	9.8	10	PT	RM	HM	WA	EA	TCT	10	A	9
B-6	3.6	20	SST	HEM	HM	RM	PA	TNO	20		0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
B-7	6.7	10	MST	BC	HM	RM	UA	TGST	10	A	7
B-8	8	11	SST	HEM	RM	HM	PA	TNO	11		0
B-9	21.3	46	PT	WS	RM	HM	EA	TP	71	A	21
B-10	12.2	11	SST	HM	YB	WS	PA	TNO	20		0
B-11	4.8	99					PA	TNO	99		0
B-12	23.3	45	SST	NS	HM	BC	PA	TNO	71		0
B-13	14.2	11	SST	HEM	RM	HM	PA	TNO	11		0
B-14	68.9	10	SST	HM	WA	YB	UA	TSS	10	E	64
B-15.1	121.6	10	SST	HM	YB	BC	UA	TSS	10	E	117
B-15.2	19.5	11	PT	HEM	HM	YB	UA	TGST	11	E	18
B-16	49.5	11	SST	HEM	HM	BC	PA	TNO	11		0
B-17	3.5	99					PA	TNO	99		0
B-18	4.8	10	PT	HM	WA	RM	PA	TNO	10		0
B-19.1	6.5	10	PT	RM	HM	YB	UA	TG	10	A	6
B-19.2	10.4	10	SST	YB	HEM	BE	UA	TGST	11	A	10
B-19.3	68.8	10	SST	HM	RM	YB	UA	TGST	10	A	69
B-20	42.8	10	SST	HM	YB	BC	UA	TGST	10	A	42
B-21	15.2	11	PT	RM	HEM	YB	UA	TGST	11	D	15
B-22	18.1	46	PT	WS	BC	RM	UA	TGST	71	D	18
B-23	87.9	20	SST	HEM	RM	YB	PA	TNO	20		0
B-24.1	34.6	10	PT	HM	BC	BE	UA	TCT	10	C	34
B-24.2	6.9	71	PT	NS	HM	RM	EA	TCT	71	C	7
B-24.3	7.5	71	PT	HEM	WS	HM	EA	TCT	10	C	7
B-25	8.6	11	SST	HEM	HM	RM	PA	TNO	11		0
B-26	0.7	97	S-S	RM	HM	BC	EA	TNO	10	E	0
B-27	3.2	97	S-S	RM	HM	BC	EA	TNO	10	E	0
B-28	34.6	47	SST	JL	RM	HM	EA	TSS	10	C	34
B-29	7.9	47	SST	JL	RM	BC	EA	TSS	10	C	8
B-30	46.2	10	PT	RM	HM	WA	UA	TSS	10	E	46
B-31	6.2	99					PA	TNO	99		0
B-32	16.1	10	PT	HM	RM	BC	PA	TNO	10		0
B-33.1	12.8	46	PT	WS	WP	RM	PA	TNO	46		0
B-33.2	3.1	45	PT	NS	BC	WS	EA	TCT	71	E	3
B-34.1	10.7	40	PT	RP	ASP	RM	PA	TNO	70		0
B-34.2	7.6	10	PT	HM	WA	RM	PA	TNO	10		0
B-34.3	11.6	97	S-S	RM	HM	BC	EA	TNO	10	E	0
B-35	45.2	11	SST	HEM	RM	YB	PA	TNO	11		0
B-36	5.4	10	SST	RM	BC	HEM	PA	TNO	11		0
B-37	10.3	63	SST	HEM	RS	WS	PA	TNO	63		0
B-38	3.3	10	PT	WA	HM	YB	PA	TNO	10		0
B-39	23.7	60	SST	WP	RP	RS	UA	TGST	70	C	22
B-40	7.7	10	SST	BC	HM	RP	UA	TCT	10	C	7

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
B-41	16.1	11	SST	HEM	RM	HM	UA	TGST	11	D	16
B-42	46.4	11	SST	BC	HM	RM	UA	TGST	11	C	43
B-711.1	3.7	99					ADM	TNO	99		0
B-711.2	7.7	99					ADM	TNO	99		0
B-711.3	2.6	99					ADM	TNO	99		0
Total	2036.4										1263

OSWEGO #9

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1	9.5	11	PT	HEM	YB	RM	PA	TNO	11		0
A-2	90.2	10	PT	RM	YB	BE	EA	TSS	10	E	90
A-3	8.2	20	SST	HEM	BC	RS	PA	TNO	22		0
A-4	25.3	11	SST	HEM	RM	YB	PA	TNO	20		0
A-5	29.2	70	SST	WP	BC	RM	EAES	TP	14	B	29
A-6	10	10	SST	BC	RM	HM	EAES	TP	10	B	10
A-7	23.1	70	SST	BC	WP	JP	EAES	TP	14	B	23
A-8	3.9	10	PT	RM	HM	BC	EA	TCT	10	A	4
A-9	4.1	99					PA	TNO	99		0
A-10	15.8	41	SST	WP	BC	RM	EA	TCT	70	A	16
A-11	8.5	68	PT	WP	JP	BC	EA	TCT	70	A	8
A-12	9.6	10	PT	BC	HM	YB	EA	TP	10	A	10
A-13	12	12	PT	WP	RM	BC	EA	TP	10	A	12
A-14.1	17.3	41	SST	WP	BC	RM	EA	TCT	70	A	17
A-14.2	2.9	20	PT	HEM	BC	HM	PA	TNO	20		0
A-15	10.6	11	PT	YB	WA	HEM	PA	TNO	11		0
A-16	12.8	10	PT	HM	YB	BC	EA	TP	10	E	13
A-17.1	231	10	SST	RM	BC	YB	EA	TSS	10	C	231
A-17.2	22.6	10	SST	RM	HEM	HM	EA	TSS	10	C	23
A-18	24.8	99					PA	TNO	99		0
A-19	16.1	10	PT	HM	BC	RM	PA	TNO	10		0
A-20.1	29.9	99					PA	TNO	99		0
A-20.2	86	99					PA	TNO	99		0
A-21	15.8	11	PT	HEM	RM	RS	PA	TNO	20		0
A-22	3.2	11	PT	HEM	YB	BC	PA	TNO	11		0
A-23	65.2	10	SST	BC	HM	ASP	EA	TP	10	A	65
A-24	7.7	10	PT	BC	RM	HM	PA	TNO	10		0
A-25	11.7	11	SST	BC	HM	ASP	PA	TNO	10		0
A-26	18.3	11	SST	RM	HEM	YB	PA	TNO	11		0
A-27	1.1	21	MST	WP	HEM	RM	PA	TNO	21		0
A-28	30.3	12	SST	BC	WP	RM	EA	TP	12	D	30
A-29	5.1	12	PT	WP	BC	RM	EA	TCT	12	D	5
A-30	7.8	41	SST	WP	BC	RM	PA	TNO	41		0
A-31	32.3	99					PA	TNO	99		0
A-32	13.3	70	SST	SP	WP	HM	EA	TP	10	A	13
A-33	10.8	99					PA	TNO	99		0
A-34	22.3	11	SST	BC	WP	HEM	PA	TNO	11		0
A-35	3.2	99					PA	TNO	99		0
A-36	49.3	11	PT	HEM	RM	BC	PA	TNO	11		0
A-37	32.2	60	SST	RP	WP	BC	PA	TNO	60		0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-38	12.7	41	SST	WP	JP	BC	EA	TCT	70	C	13
A-39	19.4	11	SST	RM	HEM	HM	PA	TNO	11		0
A-711.1	4.1	99						TNO	99		0
A-711.2	0.9	99						TNO	99		0
A-711.3	1.6	99						TNO	99		0
Total	1071.7										612

OSWEGO #10

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1	11.1	10	PT	RM	HM	BC	PA	TNO	10		0
A-2	48.8	40	SST	RP	BC	RM	PA	TNO	70		0
A-3	3.5	10	PT	RM	ASP	BC	PA	TNO	10		0
A-4	20.5	10	PT	RM	BC	HM	PA	TNO	10		0
A-5	5.8	10	PT	BC	RM	WP	PA	TNO	10		0
A-6	120	10	SST	HM	RM	BE	PA	TNO	10		0
A-7	14.2	70	SST	RP	BC	RM	EA	TCT	70	D	13
A-8	11.1	10	SST	RM	YB	BC	EA	TCT	10	D	0
A-9	25.1	10	PT	RM	BC	YB	UA	TGST	10	D	15
A-10	39.1	11	PT	RM	HEM	BC	UA	TGST	10	E	31
A-11	36.3	11	PT	HEM	RM	WP	PA	TNO	11		0
A-12	22.4	10	PT	RM	HEM	WA	EA	TCT	10	B	22
A-13	9.1	11	PT	HEM	RM	WA	PA	TNO	20		0
A-14	15.4	10	SST	RM	BC	YB	EA	TCT	10	B	15
A-15	2	11	PT	HEM	RM	YB	PA	TNO	11		0
A-16	39.9	10	MST	RM	YB	HM	EA	TCT	10	B	40
A-17	4.1	45	PT	NS	SP	RM	EA	TCT	71	B	4
A-18	1.3	99					PA	TNO	99		0
A-19	106.6	10	PT	HM	RM	YB	UA	TGST	10	D	89
A-20	5.2	99					PA	TNO	99		0
A-21	11.3	99					PA	TNO	99		0
A-22	4.4	11	PT	RM	HEM	BC	PA	TNO	11		0
A-23	197	10	PT	HM	RM	YB	UA	TGST	10	D	184
A-24	8.4	99					PA	TNO	99		0
A-25	6.9	10	SST	RM	BC	YB	PA	TNO	10		0
A-26	9.4	11	PT	HEM	RM	YB	PA	TNO	11		0
A-27	18	10	PT	RM	HM	YB	PA	TNO	10		0
A-28	11.2	11	PT	HEM	RM	YB	PA	TNO	11		0
A-29	35.5	99					PA	TNO	99		0
A-30	24.5	10	PT	RM	YB	HM	PA	TNO	10		0
A-31	164.9	10	PT	RM	HM	YB	UA	TGST	10	B	159

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-32	30.4	11	PT	RM	WA	YB	PA	TNO	11		0
A-33	19.1	10	SST	RM	YB	BC	PA	TNO	10		0
A-34	2.4	99					PA	TNO	99		0
A-35	65.7	70	PT	RM	WP	BC	EA	TCT	70	A	65
A-36	155.6	10	SST	BC	RM	HM	UA	TST	10	C	131
A-37	13.4	15	PT	BSW	RM		PA	TNO	15		0
A-38	11.9	11	PT	HEM	YB	RM	PA	TNO	11		0
A-39	38	10	SST	RM	YB	BC	UA	TG	10	D	38
A-40	40	11	PT	RM	BSW	YB	PA	TNO	11		0
A-41	27.1	10	PT	RM	BC	YB	UA	TG	10	D	27
A-42	24.9	71	PT	NS	RM	BC	EA	TSS	71	D	25
A-43	68	11	PT	RM	RS	HEM	PA	TNO	11		0
A-44	2.7	97	S-S	RM	WP	HEM	UA	TNO	10	E	0
A-45	130.1	10	SST	RM	BC	YB	UA	TST	10	B	91
A-46	3.9	12	PT	RM	WP	YB	PA	TNO	12		0
A-47	6.7	11	PT	RM	HEM	BSW	PA	TNO	11		0
A-48	36.3	10	SST	RM	BC	HM	PA	TNO	10		0
A-49	32.5	11	SST	RM	BC	HEM	UA	TST	11	B	32
A-50	18	20	PT	HEM	RM	RS	PA	TNO	20		0
A-51	4.9	10	SST	BC	RM	YB	UA	TST	10	B	5
A-52	5.1	99					PA	TNO	99		0
A-53	4.7	10	PT	RM	BC	HM	PA	TNO	10		0
A-54	5.3	41	SST	WP	BC	RM	PA	TNO	70		0
A-55	46.2	99					PA	TNO	99		0
A-56	13.2	97	S-S	TAP	RM	ASP	PA	TNO	10		0
A-57	2.1	10	PT	RM	BC	WP	PA	TNO	10		0
A-58	12.6	71	PT	NS	BC	WP	PA	TNO	71		0
A-59	35.3	10	PT	RM	BC	YB	PA	TNO	10		0
A-60	4.1	10	PT	RM	BC	ASP	PA	TNO	10		0
A-61	10.1	10	PT	RM	BC	HM	PA	TNO	10		0
A-62	1.3	99					ADM	TNO	99		0
A-63	2.7	12	SST	WP	BC	RM	PA	TNO	12		0
A-64	46	11	SST	RM	BE	YB	PA	TNO	10		0
A-65	46.4	71	PT	RM	NS	BC	PA	TNO	71		0
A-66	12.5	10	PT	RM	BC	WA	PA	TNO	10		0
A-67	15.5	10	SST	RM	BC	YB	EA	TSS	10	E	15
A-68	13.2	11	SST	HEM	RM	WA	PA	TNO	11		0
A-69	19.3	10	SST	RM	BC	YB	EA	TSS	10	E	19
A-70	1.2	11	SST	HEM	RM	WA	PA	TNO	11		0
A-711.2	1.1	99					ADM	TNO	99		0
A-711.3	12.8	99					ADM	TNO	99		0
A-711.4	1.4	99					ADM	TNO	99		0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-711.5	1.9	99					ADM	TNO	99		0
A-711.6	1.1	99					ADM	TNO	99		0
Total	2079.7										1020

OSWEGO #14

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1	3.3	10	PT	BC	ASP	HM	PA	TNO	10		0
A-2	3.2	45	PT	NS	RM	BC	PA	TCT	71		0
A-3	1	45	PT	NS	RM	WP	PA	TNO	71		0
A-4	2	41	PT	WP	RP	BC	PA	TNO	70		0
A-5	7.4	11	PT	RM	BE	YB	UA	TCT	10	D	7
A-6	22.9	10	SST	BC	RM	HM	UA	TGST	10	D	23
A-7	17.9	10	PT	HM	YB	BSW	PA	TNO	10		0
A-8	1.1	45	SST	NS			PA	TNO	71		0
A-9	2.4	10	PT	HM	HEM	YB	PA	TNO	10		0
A-10	30	10	SST	BC	RM	HM	UA	TG	10	D	28
A-11	10.9	11	SST	HEM	ASP	HM	EAES	TP	11	E	10
A-12	9.5	41	SST	WP	SP	RM	EA	TSS	70	E	9
A-13	11	60	SST	WP	RP	RM	EA	TSS	70	E	11
A-14	2.9	10	PT	WA	YB	BC	EAES	TP	10	B	3
A-15	11.4	10	PT	BC	RM	YB	EAES	TP	10	B	11
A-16	16.3	99					PA	TNO	99		0
A-17	74.3	11	SST	HM	RM	HEM	UA	TG	10	B	74
A-25	7.2	10	SST	HM	BC	RM	UA	TST	10	D	7
A-26	6	63	PT	BC	WS	TAP	PA	TNO	63		0
A-27	37.5	99					PA	TNO	99		0
A-28	0.7	11	PT	HEM	RM		PA	TNO	11		0
A-29	3.3	10	PT	BC	TAP	HM	PA	TNO	10		0
A-30	8.6	41	MST	WP	BC	SP	PA	TNO	70		0
A-31	4.2	10	SST	HEM	HM	TAP	PA	TNO	10		0
A-32	17.4	11	SST	RM	BC	HEM	PA	TNO	11		0
A-33	1.2	10	PT	BC	HM	TAP	PA	TNO	10		0
A-34	3.8	70	SST	WP	BC	HM	PA	TNO	70		0
A-35	27.4	41	SST	WP	BC	HM	EA	TCT	70	A	27
A-36	2.7	99					PA	TNO	99		0
A-37	17.4	70	SST	WP	RM	BC	EA	TCT	70	A	17
A-38	4.6	20	PT	HEM	YB	BC	PA	TNO	20		0
A-39	121.8	10	PT	HM	BC	YB	EA	TGST	10	C	121
A-40	2.4	11	PT	HEM	YB	WS	PA	TNO	11		0
A-41	11	10	PT	BC	YB	HM	EA	TSI	10	E	0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-42	4.3	60	SST	RP	WP	BC	EA	TSS	70	E	4
A-43	9.7	10	PT	ASP	HM	RM	PA	TNO	10		0
A-44	16.9	60	SST	WP	RP	BC	EA	TSS	70	E	17
A-45	37.9	97	S-S	RM	HM	BC	EA	TNO	10	E	0
A-46	63.9	11	PT	HEM	RM	HM	UA	TG	11	A	62
A-47	82.5	10	MST	HM	YB	RM	UA	TG	10	D	82
A-48	17.3	11	PT	HEM	BC	RM	PA	TNO	11		0
A-49	66.8	10	SST	HM	YB	BE	UA	TG	10	A	66
A-50	15.5	60	SST	RP	WP	WS	PA	TNO	60		0
A-51	11.3	71	PT	WS	BE	RM	UA	TG	71	B	11
A-52	22.7	41	SST	WP	RP	WS	EA	TSS	70	B	22
A-53	11.8	41	LST	WP	BC	RM	EA	TCT	70	B	12
A-54	11.3	99					PA	TNO	99		0
A-711	14.6	99					ADM	TNO	99		0
B-1	93.6	11	PT	HM	RM	HEM	UA	TG	11	B	86
B-2	10.4	20	SST	HEM	RM	RS	PA	TNO	20		0
B-3	0.4	10	PT	BC	RM		PA	TNO	10		0
B-4	2.8	99					PA	TNO	14		0
B-5	26.9	11	PT	RM	RS	HEM	PA	TNO	11		0
B-7	26.2	41	SST	WP	BC	RS	EA	TGST	70	B	25
B-9	40.5	11	PT	HEM	YB	RS	PA	TNO	20		0
B-10	27.5	10	SST	HM	RM	YB	UA	TGST	10	B	27
B-11	10.8	41	SST	WP	RM	BC	EA	TCT	70	A	11
B-12	9.8	11	PT	BC	HEM	RM	PA	TNO	11		0
B-13	4.2	10	SST	BC	RM	YB	UA	TST	10	C	4
B-14	2	11	PT	HEM	BE	YB	UA	TST	11	C	2
B-15	15.6	41	LST	WP	TAP	SHR	PA	TNO	70		0
B-16	10.6	10	PT	BC	TAP	RP	PA	TNO	10		0
B-17	130.5	99					PA	TNO	99		0
B-18	4.7	10	SST	BC	YB	RM	PA	TNO	11		0
B-19	7.3	41	MST	WP	BC	WS	PA	TNO	70		0
B-20	1.4	10	SST	HM	RM	BC	PA	TNO	10		0
B-21	37.6	10	PT	HM	RM	YB	PA	TNO	10		0
B-22	58.4	10	SST	HM	YB	RM	PA	TNO	10		0
B-23	5.1	11	SST	HEM	BC	RS	PA	TNO	11		0
B-24	8.7	11	PT	RM	HEM	WA	PA	TNO	11		0
B-25	6.5	11	PT	HEM	RM	YB	PA	TNO	11		0
B-26	13	11	PT	HEM	BC	RM	PA	TNO	11		0
B-27	0.8	41	SST	WP	WS		PA	TNO	41		0
B-28	33.2	41	PT	WP	BC	WS	EA	TCT	70	A	33
B-29	2.1	99					PA	TNO	14		0
B-31	10.8	41	SST	WP	BC	RP	EA	TCT	70	A	10

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
B-32	8.3	71	PT	RM	NS	RS	EA	TCT	71	A	8
B-33	25.8	10	PT	RM	HM	YB	EA	TCT	10	C	25
B-34	16.4	12	PT	WP	RM	BC	PA	TNO	12		0
B-35	13.3	11	PT	HEM	RM	YB	PA	TNO	11		0
B-36	22.4	10	PT	RM	HM	YB	UA	TNO	10	E	0
B-37	0.9	99					PA	TNO	99		0
B-38	47.1	11	PT	BC	HEM	YB	UA	TGST	11	E	47
B-39	103.7	11	PT	HEM	RM	YB	PA	TNO	20		0
B-711	13.2	99					ADM	TNO	99		0
Total	1743.7										902

OSWEGO LEWIS #1

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1	8.6	10	MST	HM	RM	BC	PA	TNO	10		0
A-2.1	5	10	SST	RM	HM	BC	PA	TNO	10		0
A-2.2	2.1	41	SST	WP	HM	RM	PA	TNO	70		0
A-3	6.4	41	SST	WP	BC	RM	PA	TNO	41		0
A-4	6	11	PT	HEM	RM	BC	PA	TNO	20		0
A-5	35.7	99					PA	TNO	99		0
A-6	7.2	10	SST	BC	RM	HM	EA	TSS	10	C	7
A-7.1	4.3	10	SST	HM	BC	BE	EA	TSS	10	C	4
A-7.2	2.4	10	MST	BC	HM	HEM	PA	TNO	10		0
A-8.1	5	41	SST	WP	RM	BC	EA	TSS	70	C	5
A-8.2	25.8	41	MST	WP	BC	ELM	PA	TNO	41		0
A-8.3	4	41	SST	WP	BC	RM	PA	TNO	41		0
A-8.4	3.6	41	MST	WP	HM	ELM	EA	TCT	70	A	4
A-9.1	2.2	10	PT	RM	WA	HM	PA	TNO	10		0
A-9.2	23.2	10	PT	HM	WA	TAP	PA	TNO	10		0
A-10.1	21.4	10	PT	HM	RM	BlBe	PA	TNO	10		0
A-10.2	18.4	11	PT	BlBe	HM	WA	PA	TNO	11		0
A-10.3	9.6	10	PT	BC	HM	ELM	EA	TCT	10	A	10
A-11.1	4.6	20	SST	HEM	RM	RS	PA	TNO	20		0
A-11.2	4.5	20	SST	HEM	RS	HM	PA	TNO	20		0
A-12.1	2.7	10	SST	RM	BC	BE	PA	TNO	70		0
A-12.2	4.6	40	SST	RP	RM	HM	PA	TNO	15		0
A-12.3	46.1	40	SST	RP	ASP	BC	EA	TP	70	D	46
A-13	36.4	11	PT	HM	BC	BE	PA	TNO	11		0
A-14.1	3.2	10	PT	BC	RM	ASP	PA	TNO	10		0
A-14.2	4.9	11	PT	HM	RM	BC	PA	TNO	11		0
A-15	5.8	10	SST	YB	BC	HM	PA	TNO	10		0
A-16.1	57.5	10	PT	HM	BC	BE	EA	TSS	10	A	57

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-16.2	15.8	11	PT	RM	HM	BC	PA	TNO	11		0
A-16.3	41.9	10	SST	RM	BC	BE	EA	TSS	10	A	39
A-17.1	2.3	10	SST	BC	YB	HM	PA	TNO	10		0
A-17.2	11.8	11	PT	HM	YB	RM	PA	TNO	11		0
A-18	16.2	99					PA	TNO	99		0
A-19.1	5.6	41	MST	WP	BC	WA	PA	TNO	41		0
A-19.2	14.2	41	SST	WP	BC	BlBe	PA	TNO	41		0
A-20.1	25.3	11	MST	HM	HEM	YB	PA	TNO	11		0
A-20.2	10	10	SST	HM	HEM	BC	PA	TNO	10		0
A-21.1	24.3	10	SST	RM	HM	JL	EA	TCT	10	B	24
A-21.2	2.3	11	MST	BE	HM	RM	PA	TNO	11		0
A-21.3	5.2	47	SST	JL	HM	RM	PA	TNO	11		0
A-22.1	34.5	47	SST	JL	HM	RM	EA	TSS	10	B	34
A-22.2	8.5	47	SST	HM	JL	RM	EA	TCT	10	B	8
A-23.1	3.5	42	MST	SP	NS	JL	PA	TNO	70		0
A-23.2	1.6	10	PT	HM	WA	RM	PA	TNO	10		0
A-24	1.9	46	PT	WS	APL	BC	PA	TNO	46		0
A-25	5.3	10	MST	HM	RM	BC	EA	TCT	10	B	5
A-26	3.2	71	SST	WS	HM	WA	PA	TNO	71		0
A-27	10.2	11	PT	HEM	RM	WA	PA	TNO	11		0
A-28	64.6	10	SST	HM	WA	BE	UA	TG	10	B	64
A-29.1	16.2	71	PT	NS	HM	WP	PA	TNO	71		0
A-29.2	12.2	41	SST	WP	RS	HM	EA	TCT	70	B	12
A-29.3	0.5	10	PT	HM	BC	SP	PA	TNO	10		0
A-30.1	19.4	70	PT	HM	RM	WP	UA	TST	70	B	18
A-30.2	8.7	71	PT	RM	WP	RS	EA	TCT	71	B	9
A-31	31.2	10	PT	HM	WA	RM	UA	TG	10	B	28
A-32	105.3	47	MST	JL	RM	BC	EA	TSS	10	E	105
A-33.1	24	10	SST	RM	BC	HM	PA	TNO	10		0
A-33.2	4.9	10	PT	BC	HM	RP	EA	TSS	10	E	5
A-34	18.9	11	SST	HEM	RM	HM	PA	TNO	11		0
A-35	40.9	10	PT	HM	BE	YB	UA	TG	10	B	41
A-36	12.5	40	SST	RP	WP	HM	EA	TSS	10	B	12
A-37	17.3	40	SST	RP	RM	WP	EA	TSS	10	B	15
A-711.1	1.3	99					ADM	TNO	99		0
A-711.2	2.4	99					ADM	TNO	99		0
A-711.3	2.6	99					ADM	TNO	99		0
A-711.4	1.8	99					ADM	TNO	99		0
A-711.5	3.1	99					ADM	TNO	99		0
B-1	19.9	70	SST	SP	BC	RM	EA	TSS	10	D	19
B-2	5.6	47	MST	JL	BC	HM	EA	TSS	10	D	6
B-3	5.8	11	SST	HEM	RM	HM	PA	TNO	11		0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
B-4.1	4.8	70	SST	BC	WP	RP	EA	TCT	70	D	5
B-4.2	5.5	40	PT	RP	BC	RM	EA	TCT	70	D	4
B-5.1	3.4	10	PT	HM	BC	RM	EA	TCT	10	D	3
B-5.2	5.4	70	PT	HM	RP	RS	EA	TCT	10	D	5
B-6.1	27.7	70	SST	RP	RM	ASP	EA	TSS	70	D	28
B-6.2	2	10	SST	HM	ASP	BC	PA	TNO	10		0
B-6.3	4.1	40	SST	RP	RM	WP	EA	TSS	10	D	4
B-7.1	2.7	41	SST	WP	RP	HM	PA	TNO	41		0
B-7.2	2.8	10	PT	RM	RS	WP	PA	TNO	12		0
B-8	40.7	41	MST	WP	RM	BC	EA	TSS	70	D	41
B-9.1	14.8	10	SST	RM	YB	BC	UA	TGST	11	A	15
B-9.2	8.4	10	PT	RM	BC	YB	UA	TGST	11	A	80
B-10.1	10	11	SST	HEM	RM	RS	UA	TGST	11	A	10
B-10.2	3.7	20	PT	HEM	RM	YB	UA	TGST	20	B	4
B-11	6	41	SST	WP	RP	BC	EA	TCT	70	D	6
B-12.1	8.7	11	PT	RM	HEM	ASP	PA	TNO	11		0
B-12.2	7.9	11	SST	HEM	RM	YB	PA	TNO	11		0
B-13	34.7	11	SST	HEM	RM	HM	PA	TNO	11		0
B-14	6.3	10	SST	HM	WA	HEM	EA	TSS	10	D	6
B-15	7.8	10	SST	HM	RM	WA	PA	TNO	11		0
B-16	23.6	60	SST	RP	WP	BC	EA	TSS	70	D	24
B-17	8.9	10	SST	HM	WA	RM	EA	TSS	10	D	9
B-18.1	67.1	41	SST	WP	RM	BC	EA	TSS	70	D	67
B-18.2	4.3	46	SST	WS	RM	ASP	PA	TNO	46		0
B-19	42.6	11	SST	HEM	HM	RM	PA	TNO	11		0
B-20	47	10	SST	HM	BC	RM	UA	TSS	10	A	47
B-21.1	22.6	11	SST	HM	WA	BC	UA	TSS	10	A	22
B-21.2	26	10	SST	HM	WA	RM	UA	TSS	10	A	26
B-22	8.6	40	SST	RP	HM	BC	EA	TCT	10	A	8
B-23	5.2	10	PT	HM	RM	ASP	EA	TP	10	D	5
B-24.1	59.7	10	MST	HM	RM	BC	EA	TSS	10	D	60
B-24.2	9.4	10	MST	RM	HM	YB	EA	TSS	10	D	9
B-24.3	4.2	11	SST	HEM	RM	HM	PA	TNO	20		0
B-25	7.9	11	SST	HEM	RM	YB	PA	TNO	11		0
B-26.1	30.1	41	SST	WP	HM	BC	EA	TCT	70	A	30
B-26.2	3.1	99					PA	TNO	99		0
B-27	51.4	10	SST	WA	HM	WP	EA	TSS	10	C	51
B-28	28.4	10	SST	HM	RM	BC	EA	TSS	10	C	28
B-29	14.8	40	SST	RP	RM	BC	EA	TP	10	A	15
B-30	5.3	70	SST	HM	WA	WP	EA	TSS	10	B	5
B-31.1	7.2	12	SST	WP	HM	BC	EA	TCT	12	C	7
B-31.2	1.5	97	S-S	WA	HM	RM	EA	TNO	10	E	0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
B-32.1	5.3	70	PT	RM	BC	SP	EA	TP	10	A	5
B-32.2	2.4	70	SST	RM	BC	SP	PA	TNO	70		0
B-33.1	10.1	10	SST	RM	BC	HM	EA	TCT	10	A	10
B-33.2	24.9	10	SST	BC	RM	HM	EA	TCT	10	E	25
B-33.3	5.8	10	PT	RM	BC	WA	PA	TNO	10		0
B-34	6.6	10	PT	RM	WP	YB	PA	TNO	10		0
B-35.1	12.8	40	SST	RP	RM	BC	EA	TCT	10	A	13
B-35.2	15.3	70	SST	RP	RM	HM	EA	TCT	70	A	15
B-36	9.8	10	SST	RM	HM	HEM	PA	TNO	10		0
B-37	4.4	41	SST	WP	BC	RM	PA	TNO	70		0
B-38	9.3	10	SST	RM	YB	BC	PA	TNO	10		0
B-39.1	10.9	11	SST	HEM	RM	YB	PA	TNO	20		0
B-39.2	2.8	99					PA	TNO	99		0
B-40	37.3	10	SST	HM	RM	WA	PA	TNO	10		0
B-41	8.1	10	SST	RM	RP	HM	PA	TNO	10		0
B-42	13.6	70	SST	RM	RP	BC	PA	TNO	70		0
B-711.1	0.5	99					ADM	TNO	99		0
B-711.2	0.8	99					ADM	TNO	99		0
B-711.3	2.3	99					ADM	TNO	99		0
B-711.4	2.4	99					ADM	TNO	99		0
B-711.5	0.6	99					ADM	TNO	99		0
Total	1896.2										1269

Conservation Easement and Jackson Road Fisherman Access

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
JRFAS	36.4	10	SST	RM	BC	HM	UA	TSS	10	E	33
CE A-1	81.4	10	SST	RM	BC	WP	PA	TNO	10		0
CE A-2	70	10	SST	RM	BC	WP	PA	TNO	10		0
Total	187.8										33

North Shore Pending Acquisition

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-1	106.6	11	SST	RM	HEM	HM	UA	TGST	11	E	90
A-2	22.9	11	SST	HEM	RM	HM	PA	TNO	11		0
A-3	21.2	40	SST	RP	RM	BC	PA	TNO	40		0
A-4	6	11	SST	HEM	RM	HM	PA	TNO	11		0

Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type	Treat. Period	Treat. Acres
A-5	77	11	SST	RM	HEM	HM	UA	TGST	11	E	72
A-6	15.8	40	SST	RP	RM	BC	UA	TGST	40		0
A-7	5.1	10	SST	RM	BC	WA	PA	TNO	10		0
A-8	56.8	40	SST	RP	RM	BC	UA	TGST	40		0
A-9	27.4	99					PA	TNO	99		0
A-10	14.9	61	SST	RP	NS	RM	UA	TGST	70	C	14
A-11	18.9	97	S-S	RM	BC	SHR	UA	TGST	10	E	0
A-12	2.6	40	SST	RP	RM	BC	PA	TNO	70		0
A-13	1.1	10	PT	SHR			PA	TNO	10		0
A-14	2	10	SST	RM	BC	WA	PA	TNO	10		0
A-15	12.8	15	SST	RM	BC	YB	PA	TNO	10		0
A-16	4.5	99					EA	TNO	14		0
A-17	40.4	10	SST	RM	BC	YB	PA	TNO	10		0
A-18	26.5	99					EA	TNO	14		0
A-19	20	99					PA	TNO	99		0
A-20	3.9	15	SST	RM	BC	WA	PA	TNO	15		0
A-21	2	10	SST	RM	BC	HEM	PA	TNO	10		0
A-22	1.1	71	SST	NS	RM		PA	TNO	71		0
A-23	15.9	40	SST	RP	RM	BC	EA	TSS	10	C	15
A-24	10.1	71	SST	NS	RM	BC	PA	TNO	71		0
A-25	29.9	15	SST	RM	BC	WA	PA	TNO	15		0
A-26	20.4	10	SST	RM	YB	BE	PA	TNO	10		0
A-27	5.9	11	SST	HEM	RM	YB	PA	TNO	11		0
A-28	38.7	10	SST	RM	HM	BC	PA	TNO	10		0
A-29	17.1	11	SST	HEM	RM	YB	PA	TNO	11		0
A-30	10.5	10	SST	RM	HM	BC	PA	TNO	10		0
A-31	46.8	10	SST	RM	HM	BC	PA	TNO	10		0
A-32	18.5	99					PA	TNO	99		0
A-33	15.3	10	SST	RM	HM	BC	PA	TNO	11		0
A-711	1.3	99					ADM	TNO	99		0
TOTAL	719.9										191

XIII. PROJECTS

The following are action schedules listed by Individual Projects, Annual Maintenance/Projects and Reoccurring Periodic Maintenance/Projects. These are listed in priority by Action number with a brief description and work type. The type description is as follows:

A = Administrative Action requiring staff time prioritization but no additional funding.
C = Capital and Stewardship projects needing funding and staffing priority.
* Projects that will try to be completed as additional work required in a forest product sales contract or TRP by volunteers.

A. Individual Projects Listed by Priority

Action	Description	Type
Action 3.2.9	Encourage the establishment of a formal cooperative management agreement between NYSDEC and Erie Boulevard Hydropower L.P. which would include a comprehensive camping plan for the FERC lands adjacent to the Salmon River Reservoir.	A
Action 1.1.6	Stabilize severely eroding banks at Redfield Island Day Use Area along the Reservoir shoreline.	C
Action 3.1.1	Restrict vehicle access on portions of Redfield Island Day-Use Area by blocking off the access road through day-use area with gates.	C
Action 3.1.4	Block off access to reservoir at the small pull-in west of the car top launch parking area near to the intersection of County Route 17 and 27 and Waterbury road.	C
Action 3.2.2	Improve picnic areas and install up to 8 picnic tables at the Redfield Island Day Use area.	C
Action 3.3.2	Provide one ADA compliant picnic area on Redfield Island Day-use Area.	C
Action 3.3.3	Provide an ADA compliant platform to access watercraft at the Redfield Island Day-use Area.	C
Action 3.2.4	Construct a small parking area on Redfield Island Day-use Area, north of the bridge on County Route 17.	C
Action 3.2.9	Request Permission from Erie Boulevard Hydropower to install one mooring post located adjacent to concrete ramps at each boat launch. Also install “No Mooring” signs on ADA viewing platform located on Redfield Island.	C
Action 3.2.1	Implement Special Area regulations on all State lands and Easements within 300 feet of the Salmon River Reservoirs high water shoreline into ECL.	A
Action 3.2.3	As finances allow, provide an accessible Port-A-Pottie facility on the Redfield Day Use Area.	C
Action 3.1.9	Limit the number of campsites on State Forest or Conservation	A

Action	Description	Type
	Easement land within the 300 foot visual protection buffer along the reservoir shoreline to no more than 20 designated sites.	
Action 3.3.4	Provide two ADA complaint campsites on the Unit adjacent to the Reservoir and accessible by vehicle.	C
Action 3.1.8	Designate the following areas as car top boat launch only areas: Redfield Island Day Use next to the bridge on County Rte 17, the Little America access site, and the culvert site south of Hall Island peninsula.	A
Action 3.2.7	Develop small connector trails from the Hall Island trail system to some of the designated camping sites along the reservoir shoreline.	C
*Action 3.2.6	Widen and remove blind curves on south shore trail by removing trees and leveling trail.	C
*Action 3.2.5	Relocate the south shore snowmobile trail to higher ground and away from areas adjacent to wooded wetlands and a previous nesting area of Bald Eagles.	C
Action 2.2.2	Improve and grade the Hall Island access PFAR.	C
Action 3.3.5	Install gate and a two car and trailer parking area on Oswego #8 at the entrance of Harpers Ferry access road and designate the restricted road as a MAPPWD route.	C
Action 3.3.7	Remove the MAPPWD designation on the Casio Road and leave the road open to public vehicle access.	A
Action 3.4.1	Develop and install kiosks describing the recreational opportunities of the Unit including Redfield Island Day Use Area, designated camping facilities, trails, access points and rules and regulations for State lands adjacent to the Salmon River Reservoir.	C
Action 3.4.2	Develop and install two State Forest kiosks which would describe the State Forests in that vicinity as well as the areas rules and regulations.	C
Action 3.4.3	Develop brochure describing the camping areas around the Salmon River Reservoir in both a digital and printed format.	A
Action 3.4.4	Develop area specific information and maps to be available on the Department's web page.	A

B. Annual Maintenance/Projects

Action	Description	Type
Action 1.4.5	Protect active and inactive (potential alternate) nesting sites for raptors listed as species of Special Concern.	A
Action 1.4.6	Protect the habitat of any other at-risk or Special Concern species discovered on the Unit.	A
Action 1.5.3	Conduct annual insect and disease aerial surveys.	A
Action 1.6.1	Manage the Unit's forests using silvicultural treatments for all forest cover types at a total annual average harvest of 232 acres per year for	A

Action	Description	Type
	the 20 year planning period.	
Action 2.4.1	Annually assess the condition of the State Forest's kiosks, identification and informational signs. Replace signs as needed or as priorities and budgets permit.	C
Action 3.1.2	Continue partnering with the Redfield Snowmobile Association to help maintain the area by mowing and litter pickup through volunteer agreement.	A
Action 3.1.3	Continue to maintain the Redfield Island Day Use Area's main parking lot for snowmobile trailer parking by allowing plowing through a Temporary Revocable Permit with the Town of Redfield.	A
Action 3.1.11	Continue ongoing partnerships with local snowmobile clubs to maintain and improve 16.8 miles of snowmobile trails by issuing TRP's.	A
*Action 3.1.6	Encourage volunteer partnerships to maintain 10.8 miles of foot trails on the Hall Island hiking trail south of the Salmon River Reservoir. If volunteers are not located to properly maintain the trail system the trails will be discontinued.	C
Action 3.1.7	Maintain two existing concrete boat ramps, one at Jackson Road access site and the other at the Redfield Island Day Use Area.	C
Action 3.1.10	Encourage volunteers to annually inspect the designated campsites on the Unit and maintain as needed. If sites are not adequately maintained further restriction may be incorporated including closing of designated sites.	A
*Action 3.3.1	Maintain the ADA parking area and viewing platform on Redfield Island Day Use Area.	C
Action 3.3.6	Maintain two MAPPWD trails, gates, signs and parking areas located on the O'Hara and Salmon River State Forests.	C
Action 4.2.1	Maintain annual tax payments to local governments and schools.	A
Action 4.4.2	Promote public awareness through kiosks, brochures, and Department website development to be utilized by local communities.	A
Action 3.1.12	Encourage and work with individuals or volunteer groups which are willing to help maintain, enhance and construct recreational assets on the Unit.	A
	Unit wide coordination with other agencies or divisions.	A
	Unit wide coordination with public user groups.	A
	Unit wide post-harvest forest inventory.	A
	Unit wide coordination with law enforcement.	A

C. Periodic Maintenance/Projects

Action	Description	Type
Action 1.1.3	Monitor BMP implementation by evaluating control structures after construction to assess effectiveness.	A
Action 1.3.3	Conduct a survey, for rare species or communities by Natural Heritage staff as time and resources become available, of any newly acquired lands and protect any new finds of at-risk species and significant ecological communities identified by New York State Natural Heritage.	A
*Action 1.4.3	Improve the habitat for American woodcock *(Scolopax minor)* .	A
Action 1.4.4	Manage beaver where their actions threaten rare species or ecological communities, roads, culverts, trails or other access related infrastructure.	A
Action 1.5.1	Conduct periodic Forest Inventory of the State Forests within the Unit.	A
Action 1.5.2	Monitor Rare Species of special concern through efforts available by the New York Natural Heritage Program and develop an action plan as appropriate.	A
Action 1.5.4	Monitor invasive species populations and encourage other partners or outside agencies to conduct periodic invasive species assessments of the Unit.	A
*Action 1.5.4.1	When invasive species are found, work to eradicate the population where feasible by approved procedures.	A
Action 2.1.2	Implement a systematic and comprehensive archaeological inventory of the Unit as outlined in the SPSFM actions HC Action 2.	A
Action 2.2.1	Implement a standard process as identified in the SPSFM (pg 168) for assessing State Forest infrastructure needs and assign maintenance schedule priorities and budgets.	A
Action 2.3.1	Repaint boundary lines on a seven year cycle utilizing the DECs Operations crews.	A
Action 2.3.2	Identify and complete survey requests through the Bureau of Real Property as priorities and budgets allow.	A
*Action 3.1.5	Allow the maintenance of 2.2 miles of trails, on the Salmon River State Forest's Coey Hill, for cross country skiing through a TRP if a new ski center is established.	A
*Action 4.4.1	Develop cooperative partnerships with organizations individuals or communities to sustain or enhance forest based tourism activities that are consistent with this plan and State forest rules and regulations.	A
Action 4.5.1	The Department would pursue possible purchases of lands, from willing sellers only, in fee or through conservation easement parcels (in-holdings and parcels bordered on two or three sides by State lands) that will consolidate State ownership or protect at-risk species or ecological communities.	C

XIV. GLOSSARY OF TERMS

Ablation moraine - (*geology*) A layer of rock particles overlying ice in the ablation of a glacier. Drift deposited from a superglacial position through the melting of underlying stagnant ice. (P)

Access trails - temporary unpaved roads which do not provide all weather access within the Unit. They are not designed for long term and repeated use by heavy equipment. These corridors were originally built for the seasonal removal of forest products by skidding to landings or other staging areas. Built according to best management practices, these trails may be used to support other management objectives such as recreational access corridors. Maintenance is limited to activities which minimally support seasonal access objectives. (I)

Adaptive management - a dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management on a continuing basis to ensure that objectives are being met. (D)

Aesthetics - forest value, rooted in beauty and visual appreciation and providing a distinct visual quality. (F)

Age class - trees of a similar size and/or age originating from a single natural event or regeneration activity. *see* **cohort**. (D)

Basal area - the cross sectional area, measured in square feet, of a single stem, including the bark, measured at breast height (4½ ft above the ground). (D)

Best Management Practices (BMP's) - a practice or a combination of practices that are designed for the protection of water quality of water bodies and riparian areas, and determined to be the most effective and practicable means of controlling water pollutants. (D)
Biological diversity (Biodiversity) - **1.** the variety and abundance of life forms, processes, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at spatial scales that range from local through regional to global —synonym biological diversity, diversity
2. an index of richness in a community, ecosystem, or landscape and the relative abundance of these species —note 1. there are commonly five levels of biodiversity: (a) genetic diversity, referring to the genetic variation within a species; (b) species diversity, referring to the variety of species in an area; (c) community or ecosystem diversity, referring to the variety of communities or ecosystems in an area; (d) landscape diversity, referring to the variety of ecosystems across a landscape; and (e) regional diversity, referring to the variety of species, communities, ecosystems, or landscapes within a specific geographic region —note 2. each level of biodiversity has three components: (a) compositional diversity or the number of parts

or elements within a system, indicated by such measures as the number of species, genes, communities, or ecosystems; (b) structural diversity or the variety of patterns or organizations within a system, such as habitat structure, population structure, or species morphology; and (c) functional diversity or the number of ecological processes within a system, such as disturbance regimes, roles played by species within a community, and nutrient cycling within a forest. (O)

Biological legacy - an organism, living or dead, inherited from a previous ecosystem; biological legacies often include large trees, snags, and down logs left after timber harvesting. (D)

Buffer strip - a vegetation strip or management zone of varying size, shape and character maintained along a stream, lake, road, recreation site or other vegetative zone to mitigate the impacts of actions on adjacent lands, to enhance aesthetic values or as a best management practice. (D)

Clearcut - the cutting of essentially all trees, producing a fully exposed microclimate for the development of a new age class —note 1. regeneration can be from natural seeding, direct seeding, planted seedlings, or advance reproduction —note 2. cutting may be done in groups or patches (group or patch clearcutting), or in strips (strip clearcutting) —note 3. the management unit or stand in which regeneration, growth, and yield are regulated consists of the individual clearcut stand —note 4. when the primary source of regeneration is advance reproduction, the preferred term is overstory removal. (O)

Coarse Woody Material (CWM) - any piece(s) of large dead woody material on the ground in forest stands or in streams. (D)

Cohort - a population of trees that originate after some type of disturbance. (F)

Community – 1. an assemblage of plants and animals interacting with one another, occupying a habitat, and often modifying the habitat; a variable assemblage of plant and animal populations sharing a common environment and occurring repeatedly in the landscape.
2. a group of people living in a particular local area. (G) (O)

Conifer - a cone-bearing tree, also referred to as softwood; *note*: the term often refers to gymnosperms in general. (D)

Conversion - a change from one silvicultural system to another or from one tree species to another. (D)

Coppice - stems originating primarily from vegetative reproduction; e.g. the production of new stems from stumps, roots or branches. (D)

Corridor - a linear strip of land identified for the present or future location of a designed use within its' boundaries. *Examples*: recreational trails, transportation or utility rights-of-way. When referring to wildlife, a corridor may be a defined tract of land connecting two or more

areas of similar management or habitat type through which a species can travel from one area to another to fulfill any variety of life-sustaining needs. (D)
Cover type - the plant species forming a majority of composition across a given area. (D)

Crown - the part of a tree or woody plant bearing live branches and foliage. (D)

Cultural resources - significant historical or archaeological assets on sites as a result of past human activity which are distinguishable from natural resources. (F)

Cutting interval - the number of years between treatments in a stand. (F)

Deciduous - tree and shrub species that lose their leaves or needles in autumn. (F)

Designated recreational trail - a Department authorized recreational trail that is signed and/or mapped. (F)

Diameter (at) Breast Height (DBH) - the diameter of the stem of a tree (outside bark) measured at breast height (4.5 ft) from the ground. (D)

Disturbance - a natural or human-induced environmental change that alters one or more of the floral, faunal, and microbial communities within an ecosystem. Timber harvesting is the most common human disturbance. Wind or ice storms are examples of natural disturbance. (A)

Early successional habitat - the earliest stage of development in a ecosystem. An example: vegetative habitat where early successional is seen as old fields, brushy shrubby type plants, with species that are shade intolerant. (O)

Ecoregion - sometimes called a **bioregion**, is an ecologically and geographically defined area that is smaller than an ecozone and larger than an ecosystem. Ecoregions cover relatively large areas of land or water, and contain characteristic, geographically distinct assemblages of natural communities and species. (N)

Ecosystem - a spatially explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries - *note*: an ecosystem can be of any size, e.g., a log, pond, field, forest or the earth's biosphere. (D)

Ecosystem management - The appropriate integration of ecological, economic, and social factors in order to maintain and enhance the quality of the environment to best meet our current and future needs. This involves management at the landscape level, prompting the biodiversity of natural communities of plants, animals and seeking to maintain healthy, productive environments. (C)

Endangered species - any species of plant or animal defined through the Endangered Species Act of 1976 as being in danger of extinction throughout all or a significant portion of its range,

and published in the Federal Register. (D)

Even-aged stand/forest- a class of forest or stand composed of trees of about the same age. The maximum age difference is generally 10-20 years. (J)

Even-aged system - a program of forest management directed to the establishment and maintenance of stands of trees having relatively little (10-20 yrs) variation in ages. The guidelines to be applied in using this system at all stages of tree development are uniquely different from the uneven-aged system. (F)

Exotic - any species introduced from another country or geographic region outside its natural range. (D)

FERC - The Federal Energy Regulatory Commission, or FERC, is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydropower projects. Lands that are regulated by FERC are described as "FERC lands". (Q)

Forestry - the profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values. (D)

Forest type - a community of trees defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees. (D)

Forested wetland - an area characterized by woody vegetation where soil is periodically saturated with or covered by water. (F)

Fragipan - a dense and brittle layer of soil. Its hardness results mainly from extreme density or compactness rather than from high clay content. The material may be dense enough to restrict root, nutrient, and water penetration. (F)

Fragmentation - 1. the process by which a landscape is broken into small islands of forest within a mosaic of other forms of land use or ownership. Note- fragmentation is a concern because of the effect of noncontiguous forest cover on connectivity and the movement and dispersal of animals in the landscape. **2.** islands of a particular age class that remain in areas of younger-aged forest. (D) (O)

Gaps - communities, habitats, successional stages, or organisms which have been identified as lacking in the landscape. (F)

Geocaching - an outdoor activity in which the participants use a Global Positioning System (GPS)
receiver or other navigational techniques to hide and seek containers. (O)

Geographic Information System (GIS) - an organized collection of computer hardware, software, geographic and descriptive data, personnel, knowledge and procedures designed to efficiently capture, store, update, manipulate, analyze, report and display the forms of geographically referenced information and descriptive information. (D)

Grassland - land on which the vegetation is dominated by grasses, grass like plants or forbs. (D)

Group selection - a type of **uneven-aged forest** management where trees are removed and new age classes are established in small groups —note 1. The width of groups is commonly approximately twice the height of the mature trees with smaller openings providing microenvironments suitable for shade tolerant regeneration and larger openings providing conditions suitable for more shade intolerant regeneration —note 2. the management unit or stand in which regeneration, growth, and yield are regulated consists of an aggregation of groups. (F) (O)

Habitat - the geographically defined area where environmental conditions (e.g., climate, topography, etc.) meet the life needs (e.g., food, shelter, etc.) of an organism, population, or community. (A)

Hardwoods - broad-leafed, deciduous trees belonging to the botanical group Angiospermae. (D)

Haul roads - permanent, unpaved roads which are not designed for all-weather travel, but may have hardened or improved surfaces with artificial drainage. They are built according to best management practices primarily for the removal of forest products, providing limited access within the unit by log trucks and other heavy equipment. These roads may or may not be open for public motor vehicle use, depending on management priorities and objectives. They may serve as recreational access corridors, but are not maintained according to specific standards or schedules. (K)

Herbicide - a chemical used for killing or controlling the growth of plants. (D)
Intermediate treatment - any silvicultural treatment designed to enhance growth, quality, vigor, and composition of the stand after establishment or regeneration and prior to final harvest. (D)

Invasive species - species that have become established outside their natural range which spread prolifically, displacing other species and sometimes causing environmental damage. (F)

Kame - is a geological feature, an irregularly shaped hill or mound composed of sand, gravel and till that accumulates in a depression on a retreating glacier, and is then deposited on the land surface with further melting of the glacier. (N)

Landscape - a spatial mosaic of several ecosystems, landforms, and plant communities across a defined area irrespective of ownership or other artificial boundaries and repeated in similar form throughout. (O)

Landscape ecology - the study of the distribution and abundance of elements within landscapes, the origins of these elements, and their impacts on organisms and processes. (O)

Late successional - forests with older and larger trees, having more structural complexity than mature forest and being either in the process of developing or have developed old growth characteristics; they may exhibit evidence of past human or natural disturbances; these forests may exist as entire stands or as smaller patches within younger stands. (O)

Legacy tree - a tree, usually mature or old-growth, that is retained on a site after harvesting or natural disturbance to provide a biological remnant. (D)

Long lived conifer - conifers that are capable of living 135 years or more on forest sites in Central New York. Tree species typically include eastern hemlock, eastern white pine, Norway spruce and northern white cedar. (F)

Mature Forest – pertaining to an even-aged stand that has attained most of its potential height growth, or has reached merchantability standards. Within uneven-aged stands, individual trees may become mature but the stand itself consists of trees of diverse ages and stages of development.
Motorized Access Permit For People With Disabilities" (MAPPWD) – permits qualifying people with disabilities to use motor vehicles along specific routes for access to programs, such as hunting and fishing on state lands.

Multiple use - a strategy of land management fulfilling two or more objectives, e.g. forest products removal and recreation. (F)

Multiple use trails - are trails which have more than one use such as a snowmobile trail in the winter and a foot trail in the summer. They can also be recreational trails which utilize existing roadways used for timber management or other administrative purposes.
Native species - indigenous species that is normally found as part of a particular ecosystem. (D)

Natural regeneration - the establishment of a forest stand from natural seeding, sprouting, suckering or layering. (D)

Neotropical migratory birds - birds that breed in Canada and the United States and spend the winter in Mexico, Central America, South America or the Caribbean islands; these species represent more
than 50% (340 of the 600 species) of North American birds. (O)

Niche - **1.** the ultimate unit of the habitat, i.e., the specific spot occupied by an individual organism
2. by extension, the more or less specialized relationships existing between an organism, individual or synusia, and its environment
3. the specific set of environmental and habitat conditions that permit the full development and completion of the life cycle of an organism —note the ecological niche of a species is the functional role of the species in a community; the fundamental niche is the totality of environmental variables and functional roles to which a species is adapted; the realized niche is the niche a species normally occupies. (O)

Northern hardwood - a forest type usually made up of sugar and red maple, American beech, yellow birch, and to a lesser extent black cherry and white ash. This type represents about 70 percent of all forests in New York State. (A)

Old growth - an abundance of late successional tree species, at least 180 - 200 years of age in a contiguous forested landscape that has evolved and reproduced itself naturally, with the capacity for self perpetuation, arranged in a stratified forest structure consisting of multiple growth layers throughout the canopy and forest floor, featuring canopy gaps formed by natural disturbances creating an uneven canopy and a conspicuous absence of multiple stemmed trees. Old growth forest sites typically are characterized by an irregular forest floor containing an abundance of coarse woody materials which are often covered by mosses and lichens; show limited signs of artificial disturbance and have distinct soil horizons. The **understory** displays well developed and diverse surface herbaceous layers. Single, isolated trees may be considered as old growth if they meet some of the above criteria. (F)

Overstory - that portion of the trees in a forest forming the upper canopy layer. (D)

Overstory removal - the cutting of trees constituting an upper canopy layer to release adequate desirable advanced regeneration in the understory. (O)

Parcelization - the subdivision of land into smaller ownership blocks. This intrudes new features and activities into the forest and changes its character but does not necessarily fragment it in biophysical terms. (J)

Plantation - a stand composed primarily of trees established by planting or artificial seeding; a plantation may have tree or understory components that resulted from natural regeneration. (D)**Poletimber** - trees that are generally 6-11 inches diameter at breast height. (F)

Protection area - land excluded from most active management to protect sensitive sites. Exclusions include: wood product management, oil and gas exploration and development, and some recreational activities. These sites most often include steep slopes, wet woodlands and **riparian zone**s along stream corridors. (F)

Proglacial lake - is a lake formed either by the damming action of a moraine or ice dam during the retreat of a melting glacier, or by meltwater trapped against an ice sheet due to isostatic depression of the crust around the ice. (N)

Public Forest Access Roads (PFAR)- permanent, unpaved roads which may be designed for all-weather use depending upon their location, surfacing and drainage. These roads provide primary access for administration and public use within the unit. The design standards for these roads are those of the Class A and Class B access roads as provided in the Unpaved Forest Road Handbook (8/74). As a general guideline, sufficient access is typically achieved when 1 mile of PFAR is developed for each 500 acres of state land, and no position within the Unit lies more than 1 half mile from a PFAR or public highway. (I) (K)

Pulpwood - low grade or small diameter logs used to make paper products, wood chips, etc. (F)

Reforestation - the re-establishment of forest cover by natural or artificial means. (A)

Regeneration - seedlings or saplings of any origin. (J)

Release – 1. a treatment designed to free trees from undesirable, usually overtopping, competing vegetation. (D) **2.** a treatment designed to free young trees not past the *sapling* stage from undesirable competing vegetation that overtops or closely surrounds them. (E)

Residual - trees remaining after any type of treatment. (D)

Riparian zone - areas of transition between terrestrial and aquatic ecological systems. They are characterized as having soils and vegetation analogous to floodplains, or areas transitional to upland zones. These areas help protect the water by removing or buffering the effects of excessive nutrients, sediments, organic matter, pesticides, or pollutants. (A)

Rotation - the period of years between stand establishment and regeneration as designated by management decisions. (J)

Sapling - trees that are generally 1 and 5 inches diameter at breast height. (F)

Sawtimber - trees that are generally 12 inches and larger diameter at breast height. (F)

Seedling - a young tree originating from seed that is less than1 inch in diameter. (A)
Seedling/sapling - trees less than 6 inches diameter at breast height. (F)

Seed tree cut/method - a regeneration action that removes most of the mature timber in one cutting, except for a small number of trees left singly, or in small groups, as a source of seed for natural regeneration. (I)

Selection cut/method/system - the removal of trees over the entire range of size classes either singly or in groups at regular intervals, resulting in multiple age-classes of reproduction. Individual trees are chosen for removal due to their maturity, because they are of poor quality or thinning is needed to improve the growth rate of the remaining trees. (F)

Shade tolerance - the ability of a tree species to germinate and grow at various levels of shade. *Shade tolerant*: having the capacity to compete for survival under shaded conditions. *Shade intolerant*: having the capacity to compete for survival only under direct sunlight conditions; light demanding species. (D) (F)

Shelterwood method - a regeneration action designed to stimulate reproduction by implementing a series of cuts over several years that will gradually remove the overstory trees. Gradual reduction of stand density protects understory trees and provides a seed source for stand regeneration. (A)

Silviculture - the art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis. (D)

Single tree selection - a type of uneven-aged forest management where individual trees of all size classes are removed more or less uniformly throughout the stand, to promote growth of remaining trees and to provide space for regeneration — synonym individual tree selection. (O)

Site - the area in which a plant or forest stand grows, considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can support. (D)

Snags - standing, dead trees, with or without cavities; function as perches, foraging sites and/or a source of cavities for dens, roosting and/or nesting for wildlife. (F)

Softwoods - generally refers to needle and/or cone bearing trees (conifers) belonging to the botanical group Gymnospermae. (F)

Species - the main category of taxonomic classification into which genera are subdivided, comprising a group of similar interbreeding individuals sharing a common morphology, physiology, and reproductive process. (D)

Stand - a contiguous group of trees sufficiently uniform in age-class distribution, composition and structure, growing on a site of sufficiently uniform quality to be a distinguishable unit. (D)

State Forest / State Reforestation Area - lands owned by the State of New York, administered by the Department of Environmental Conservation Division of Lands & Forests, and authorized by Environmental Conservation Law to be devoted to the establishment and maintenance of forests for watershed protection, the production of timber and other forest products, and for recreation and kindred purposes. These forests shall be forever devoted to the planting,

growth, and harvesting of such trees and may also be leased for the discovery and removal of oil and gas, provided that such leases do not interfere with the accomplishment of those purposes previously listed (*ECL Sections 9-0501 and 9-0507*). (F)

Sustainable forest management - management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things, while providing environmental, economic, social and cultural opportunities for present and future generations. (A)

Temporary Revocable Permit (TRP) - a Department permit which authorizes the use of State land for a specific purpose for a prescribed length of time. (F)

Thinning - a silvicultural treatment made to reduce stand density of trees primarily to improve growth of remaining trees, enhance forest health, or recover potential mortality. (D)

Threatened species - a species likely to become endangered in the foreseeable future, throughout all or a significant portion of its range, unless protected. (A)

Understory - the smaller vegetation (shrubs, seedlings, saplings, small trees) within a forest stand, occupying the vertical zone between the overstory and the herbaceous plants of the forest floor. (A)

Uneven-aged system - a planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes. (D)

Uneven-aged stand/forest - a stand with trees of three or more distinct age classes, either intimately mixed or in small groups. (D)

Universal Access - Universal access is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. (O)

Variable patch retention - an approach to harvesting based on the retention of structural elements or biological legacies (trees, snags, logs, etc.) from the harvested stand for integration into the new stand to achieve various ecological objectives. (O)

Watershed - a region or area defined by a network of stream drainage. A watershed includes all the land from which a particular stream or river is supplied. (F)

Wetland - a transitional area between aquatic and terrestrial ecosystems that is inundated or saturated for periods long enough to produce hydric soils and support hydrophytic vegetation.

XV. GLOSSARY REFERENCES

(A). Audubon-New York. Wildlife and Forestry in New York Northern Hardwoods: A Guide for Forest Owners and Managers. Audubon-New York. Albany, NY.
(B). Chambers, Robert. Integrating Timber and Wildlife Management Handbook. Chapter 1.

(C). Gelburd, Diane. Implementing Ecosystem Based Assistance for the Management of Natural Resources in the Soil Conservation District. USDA SCS.

(D). Helms, John A. 1998. *The Dictionary of Forestry.* Society of American Foresters, Bethesda, MD.

(E). Nyland, Ralph D. 2002, 1996. *Silviculture: Concepts and Applications.* 2nd ed. McGraw-Hill. New York, NY.

(F). New York State Department of Environmental Conservation (NYSDEC). Division of Lands and Forests. Internal references.

(G). Reshke, Carol. 1990. Ecological Communities of New York State. NYSDEC.

(H). Smith, D.M., B.C. Larson, M.J. Kelty, P.M.S. Ashton. 1997. *The Practice of Silviculture.* 9th ed. John Wiley & Sons, Inc., New York.

(I). 2004 State Forest Infrastructure Development Handbook. NYS DEC, Bureau of State Land Management.

(J). Biodiversity Project Working Group 2004, Terms and definitions.

(K). 2004 Unpaved Forest Road Handbook. NYS DEC, Bureau of State Land Management.

(L). Quality Deer Management Association. Available World Wide Web, www.qdma.com/qdm/.

(M) Y.W.Isachsen, E. Landing, J.M. Lauber, L.V. Rickard, W.B. Rogers 2000. Geology of New York a Simplified Account. New York State Museum Educational Leaflet 28.

(N) Wikipedia, the free encyclopedia 2010.

(O) Strategic Plan for State Forest Management, 2010. NYS DEC. Albany, New York.

(P) McGraw-Hill Science & technology Dictionary: http://www.answers.com/topic/ablation-moraine

(Q) FERC; Federal Ebergy Regulatory Commission, Website: What FERC Does, http://www.ferc.gov/about/ferc-does.asp

XVI. REFERENCES

Alerich, C. L. and Drake D. A. 1995. Forest Statistics for New York: 1980 and 1993. U.S. Forest Service Northeast Forest Experiment Station Resource Bulletin NE-132

Brookfield Renewable Power, (Revised January 2, 2009) Land Use Policy & Licensing Procedures For The Salmon River & Lighthouse Hill Reservoirs

Churchill, John C. (1895) History of Redfield, NY; From Landmarks of Oswego County, pp 7.

Clark, George Tisdale. (1946) Historical Sketch of Oswego, Tenth Publication of the Oswego Historical Society. Palladium-Times, Inc., Oswego, NY. pp 89-96.
Cox, Dr. Donald D. (1987) Natural Areas of Oswego County, Rice Creek Field Station, Special Publication No 2. State University of New York at Oswego, Oswego, NY

Crocoll, Scott T. (2011) Personal communications, NYS DEC Division of Fish, Wildlife & Marine Resources, Albany, NY

Dawson, Dr. Chad P. (1994) Salmon River Corridor Greenway Protection and Development Concept Plan, pg 29.

Douglas, George (1993) The Complete Guide to the Salmon River, Pulaski, NY

Faust, Ralph M, (1954) The Story of Oswego County

Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (GEIS), NYSDEC, 2012. http://www.dec.ny.gov/energy/45912.html

Geologic Map of New York - Adirondack Sheet - New York State Museum and Science Service - Map and Chart Series #15, 1970.

Geologic Map of New York - Finger Lake Sheet - New York State Museum and Science Service - Map and Chart #15, 1970.

Germain, R., Brazill, K., and Stehman, S. Forestland Parcelization in Upstate New York Despite Economic Stagnation and a Declining Population. Northern J. of Applied Forestry, Volume 23, Number 4, December 2006, pp. 280-287.

Kelley, James, et. al., American Woodcock Conservation Plan: A Summary of Recommendations for Woodcock Conservation in North America., Wildlife Management Institute, 2008.

McGee, Gregory, Salmon River Watershed Natural Resource Assessment. State University of New York College of Environmental Science and Forestry, 2008. http://www.dec.ny.gov/docs/regions_pdf/srwasa.pdf
New York State 2nd Breeding Bird Atlas 2008. NYS DEC Albany, New York.

New York State Forestry Best Management Practices for Water Quality, Field Guide 2000. NYS DEC. Albany, New York

New York State Comprehensive Wildlife Conservation Strategy Plan (2005), NYS DEC, NYS OPRHP, NYS DOS, Albany, NY. http://www.dec.ny.gov/animals/30483.html

New York State Department of Environmental Conservation. Protection of Waters Program Web Site, Classification of Waters, 2012. http://www.dec.ny.gov/permits/6042.html

New York State Department of Environmental Conservation. Strategic Plan for State Forest Management, 2010. (SPSFM) http://www.dec.ny.gov/lands/64567.html

New York State Historic Preservation Act of 1980, New York State Office of Parks, Recreation & Historic Preservation, Albany, NY. http://nysparks.state.ny.us/shpo/environmental-review/state-regulations.aspx

New York State Office of Parks, Recreation and Historic Preservation. The New York State Statewide Comprehensive Outdoor Recreation Plan 2009-2013, 2008. http://nysparks.state.ny.us/recreation/trails/statewide-plans.aspx

North East State Foresters Association. The Economic Importance and Wood Flows from New York's Forests, 2007. http://www.nefainfo.org/publications/2007%20Publications/NEFAEconomicImportNY.pdf

ONR-DLF-1/Plantation Management on State Forests (March 21, 2011), NYS DEC Program Policy, Albany, NY. http://www.dec.ny.gov/docs/lands_forests_pdf/policysfplantation.pdf .

ONR-DLF-2/Retention on State Forests (March 21, 2011), NYS DEC Program Policy, Albany, NY. http://www.dec.ny.gov/docs/lands_forests_pdf/policysfrention.pdf .

ONR-DLF-3/Clearcutting on State Forests (March 21, 2011), NYS DEC Program Policy, Albany, NY. http://www.dec.ny.gov/docs/lands_forests_pdf/policysfclearcutting.pdf .

Perry, Justin (2012) Personal communication. NYSDEC Bureau of Lands & Forests, Albany, NY.

Preliminary Brittle Structures Map of New York, New York State Museum-Map and Chart Series No.31E, 1974.

Rapparlie, D. F. et al. (1981) Soil Survey of Oswego County, New York. USDA in Association with Cornell Agriculture Experiment Station, Ithaca, NY.

Region 7 Recreation Master Plan for State Forests & Unique Areas (Draft). 2001. NYS DEC Albany, New York.

Salmon River Corridor Grant of Open Space Conservation Easement (1993), Niagra Mohawk Power Corporation & New York State Department of Environmental Conservation, Syracuse, NY.

Salmon River Corridor Open Space Conservation Easement Management Plan (2009), Niagara Mohawk Properties, Inc. & New York State Department of Environmental Conservation, Syracuse, NY

Sampson, Harold E. (1971) Tug Hill Country: Tales from the Big Woods, North Shore Publishing; pp 65.

Speiser R. & Bosakowski T. (1987) Nest Site Selection by Northern Goshawks in Northern New Jersey and Southern New York, *The Condor* 89:357-394, Published by The Cooper Ornithological Society.

Species of Greatest Conservation Need, New York State Department of Environmental Conservation, http://www.dec.ny.gov/animals/9406.html

State Environmental Quality Review Act (1995), New York State Department of environmental Conservation, Albany, NY. http://www.dec.ny.gov/regs/4490.html

Strategic Plan for State Forest Management, 2010. NYS DEC Albany, New York.

Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (SGEIS), NYSDEC, 2012. http://www.dec.ny.gov/energy/47554.html

Surficial Geologic Map of New York, New York State Museum - Geologic Survey - Map and Chart series #40, 1986.

Tug Hill Commission. The Tug Hill Forest: Contributing to a Regional Economy and a Way of Life. 2003.
http://www.tughill.org/PublicationAndReferences/IssuePapers/TheTugHillForestContributingToRegionalEconomyandWayofLife2003.pdf

United States of America Federal Energy Regulatory Commission (February 21, 1996) License Agreement with Niagara Mohawk Power Corporation, Project No. 11408-000.

Unpaved Forest Road Handbook (2004) NYS DEC Division of Lands and Forests, Albany, New York.

U.S. Department of the Interior, Bureau of Land Management, et. al. 1994. Forest Ecosystem Management: An Ecological, Economic, and Social Assessment. Report of the Forest Ecosystem Management Team

USGS, National Multi-Resolution Land Characteristics 2001 (MRLC2001) Image Processing Procedure Revised 01/09/2006 http://landcover.usgs.gov/pdf/image_preprocessing.pdf

Wellman, Judith (1988) Land Marks of Oswego County, Syracuse University Press, Syracuse , NY.

Wolford, Glenn (2010) Personal communication. NYSDEC Bureau of Real Property, Syracuse, NY.

XVII. APPENDICIES

Appendix I – State Classified Wetlands Found on the Unit.

State Classified Wetlands			
State Forest	**Wetland ID**	**Class**	**Acres**
OSWEGO 8	RF-31	2	10.6
OSWEGO 8	OR-21	1	1.9
OSWEGO 8	RF-20	2	1.3
OSWEGO 8	RF-17	2	13.3
OSWEGO 8	RF-36	2	0.0
OSWEGO 8	RF-25	2	2.2
OSWEGO 8	RF-38	2	19.5
OSWEGO 8	RF-22	3	34.2
OSWEGO 8	RF-24	2	9.1
OSWEGO 9	OR-39	1	168.9
OSWEGO 10	OR-38	3	13.7
OSWEGO 10	RF-28	3	26.2
OSWEGO 10	RF-26	2	57.5
OSWEGO 10	OR-39	1	179.9
OSWEGO 14	RF-15	2	3.2
OSWEGO 14	RF-42	1	33.3
OSWEGO 14	RF-18	3	17.8

State Classified Wetlands			
State Forest	**Wetland ID**	**Class**	**Acres**
OSWEGO 14	RF-16	1	168.2
OSWEGO 14	RF-11	2	11.0
OSWEGO 14	RF-1	2	13.4
OSWEGO LEWIS 1	RF-41	2	59.9
OSWEGO LEWIS 1	F-1	3	13.7
OSWEGO LEWIS 1	WD-23	2	14.0
OSWEGO LEWIS 1	WD-8	2	9.8
OSWEGO LEWIS 1	WD-18	1	5.3
NAT. GRID LANDS	RF-27	1	15.6
NAT. GRID LANDS	RF-30	1	51.8
Total			955.3

Appendix II - Federally Designated Wetlands found on the Unit.

Federal Designated Wetlands		
State Forest	**Federal Wetland Type**	**Acres**
OSWEGO 8	Freshwater Forested/Shrub Wetland	233.7
OSWEGO 8	Freshwater Emergent Wetland	10.2
OSWEGO 8	Lake	7.6
OSWEGO 9	Freshwater Forested/Shrub Wetland	308.7
OSWEGO 10	Freshwater Forested/Shrub Wetland	324.5
OSWEGO 10	Other	3.1
OSWEGO 10	Freshwater Emergent Wetland	17.9
OSWEGO 10	Freshwater Pond	23.9
OSWEGO 10	Lake	14.0
OSWEGO 14	Freshwater Forested/Shrub Wetland	289.9
OSWEGO 14	Freshwater Emergent Wetland	30.1
OSWEGO 14	Freshwater Pond	0.8
OSWEGO LEWIS 1	Freshwater Forested/Shrub Wetland	184.8
OSWEGO LEWIS 1	Riverine	1.9
OSWEGO LEWIS 1	Freshwater Emergent Wetland	16.4
OSWEGO LEWIS 1	Freshwater Pond	0.0
NAT. GRID LANDS	Freshwater Emergent Wetland	9.1
NAT. GRID LANDS	Freshwater Forested/Shrub Wetland	128.5
NAT. GRID LANDS	Freshwater Pond	5.3
NAT. GRID LANDS	Riverine	12.7
NAT. GRID LANDS	Lake	4.5
Total		1627.5

Appendix III – Bureau of Fisheries Stream Listing on Unit.

Stream Index , Name and additional information				
Fisheries Index Number	**Name**	**Length on Unit (mi.)**	**Article 15 Status**	**Stream Classification**
ONT-53-28	Baker Brook	0.6	Protected	C(TS)
ONT-53-P19A-5	Coey Creek	0.9	Protected	C(T)
ONT-53	East Branch Salmon River	2.5	Protected	C(TS)
ONT-53-PA19A-13	Fox Brook	0.4	Unprotected	
ONT-53-P19-9	Kenny Brook	1.9	Protected	C(T)
ONT-53-26-A	Little Baker Brook	0.4	Protected	C(TS)
ONT-53-16-10	Mad River (Salmon River Watershed)	0.3	Protected	C(T)
ONT-66-11-P26-24-28	Mad River (Fish Creek Watershed)	0.3	Protected	C(T)
ONT-53-16-3	Mill Stream	0.1	Protected	C(T)
ONT-53-16A	Muddy Brook	0.2	Protected	C(T)
ONT-53-16	North Branch Salmon River	3.8	Protected	C(T)
ONT-66-11-P26-24-28-15	Perry Brook	1.3	Protected	C(T)
ONT-53-26	Prince Brook	0.6	Protected	C(TS)
ONT-66-11-P26-24-28-13-2	Spellicy Brook	0.6	Protected	C(T)
ONT-53-15A1	Unnamed Waters	0.5	Unprotected	
ONT-53-16-10B	Unnamed Waters	0.4	Unprotected	C(T)
ONT-53-16-10C	Unnamed Waters	0.5	Unprotected	C(T)
ONT-53-16-10C-1-1	Unnamed Waters	0.1	Unprotected	C(T)
ONT-53-16-10C-2	Unnamed Waters	0.2	Unprotected	
ONT-53-16-10D	Unnamed Waters	0.7	Unprotected	
ONT-53-16-12A	Unnamed Waters	0.2	Unprotected	C(T)
ONT-53-16-13	Unnamed Waters	0.2	Unprotected	C
ONT-53-16-14	Unnamed Waters	1.3	Unprotected	C(T)
ONT-53-16-15	Unnamed Waters	0.4	Unprotected	C

Stream Index , Name and additional information				
Fisheries Index Number	**Name**	**Length on Unit (mi.)**	**Article 15 Status**	**Stream Classification**
ONT-53-16-16	Unnamed Waters	0.9	Unprotected	C(T)
ONT-53-16-4A	Unnamed Waters	0.7	Unprotected	C
ONT-53-16-6	Unnamed Waters	0.1	Unprotected	C
ONT-53-16-7	Unnamed Waters	0.1	Unprotected	C(T)
ONT-53-16A1	Unnamed Waters	0.2	Unprotected	
ONT-53-17	Unnamed Waters	0.2	Unprotected	C
ONT-53-18	Unnamed Waters	0.4	Unprotected	C(T)
ONT-53-21B	Unnamed Waters	0.4	Unprotected	C(T)
ONT-53-26-A-1	Unnamed Waters	0.2	Unprotected	
ONT-53-26-B	Unnamed Waters	0.6	Unprotected	
ONT-53-28-A	Unnamed Waters	0.2	Unprotected	C
ONT-53-29	Unnamed Waters	0.6	Unprotected	C(T)
ONT-53-30	Unnamed Waters	0.2	Unprotected	C
ONT-53-P19A-10	Unnamed Waters	0.6	Unprotected	C
ONT-53-P19A-10-2	Unnamed Waters	0.1	Unprotected	
ONT-53-P19A-5-1	Unnamed Waters	0.3	Unprotected	
ONT-53-P19A-5-2	Unnamed Waters	0.4	Unprotected	C
ONT-53-P19A-5A	Unnamed Waters	0.4	Unprotected	
ONT-53-P19A-6	Unnamed Waters	0.3	Unprotected	
ONT-53-P19A-7	Unnamed Waters	0.9	Unprotected	C
ONT-53-P19A-7-1	Unnamed Waters	0.5	Unprotected	
ONT-53-P19A-8	Unnamed Waters	0.6	Unprotected	C(T)
ONT-53-P19A-9A	Unnamed Waters	0.5	Unprotected	
ONT-66-11-P26-24-28-18	Unnamed Waters	0.1	Unprotected	C(T)
ONT-66-11-P26-24-28-19	Unnamed Waters	1.5	Unprotected	C(T)
ONT-66-11-P26-24-28-19-1A	Unnamed Waters	0.4	Unprotected	C(T)
ONT-66-11-P26-24-28-19-2A	Unnamed Waters	0.1	Unprotected	

Stream Index , Name and additional information				
Fisheries Index Number	**Name**	**Length on Unit (mi.)**	**Article 15 Status**	**Stream Classification**
ONT-66-11-P26-24-28-19-2C	Unnamed Waters	0.4	Unprotected	
ONT-66-11-P26-24-28-19-2D	Unnamed Waters	0.1	Unprotected	
ONT-66-11-P26-24-28-19A	Unnamed Waters	1.2	Protected	C(T)
Not Indexed	Unnamed Waters	0.5	Unprotected	C
Not Indexed	Unnamed Waters	7.6	Unprotected	
UNIT Total		**39.7**		

Appendix IV - Fish Species found on the Unit.

Fish Species	
Common Name	***Scientific Name***
Black Crappie	*Pomoxis nigromaculatus*
Blacknose Shiner	*Notropis heterolepis*
Bluegill	*Lepomis macrochirus*
Bluntnose Minnow	*Pimephales notatus*
Bridle Shiner	*Notropis bifrenatus*
Brook Trout	*Salvelinus fontinalis*
Brown Bullhead	*Ameiurus nebulosus*
Brown Trout	*Salmo trutta*
Central Mudminnow	*Umbra limi*
Common Shiner	*Luxilus cornutus*
Creek Chub	*Semotilus atromaculatus*
Cutlip Minnow	*Exoglossum maxillingua*
Eastern Blacknose Dace	*Rhinichthys atratulus*
Emerald Shiner	*Notropis atherinoides*
Fantail Darter	*Etheostoma flabellare*
Golden Shiner	*Notemigonus crysoleucas*
Johnny Darter	*Etheostoma nigrum*
Largemouth Bass	*Micropterus salmoides*
Longnose Dace	*Rhinichthys cataractae*
Mottled Sculpin	*Cottus bairdii*
Pumpkinseed	*Lepomis gibbosus*
Rainbow Darter	*Etheostoma caeruleum*
Rainbow Trout	*Oncorhynchus mykiss*
Redside Dace	*Clinostomus elongatus*
Rock Bass	*Ambloplites rupestris*
Slimy Sculpin	*Cottus cognatus*
Smallmouth Bass	*Micropterus dolomieu*
Spottail Shiner	*Notropis hudsonius*
Tessellated Darter	*Etheostoma olmstedi*
Walleye	*Sander vitreus vitreus*
White Sucker	*Catostomus commersonii*
Yellow Perch	*Perca flavescens*

Appendix V - Lists of Amphibians and Reptiles, Breeding Birds and Mammals found on or in the vicinity of the Unit.

New York State Amphibian and Reptile Atlas Project, 1990-1999

The following amphibian and reptile species were reported in atlas survey blocks containing the Unit.

Salmanders	
Common Name	**Scientific Name**
Red-spotted Newt	*Notophthalmus v. viridescens*
Common Mudpuppy	*Necturus maculosus*
Spotted Salamander	*Ambystoma maculatum*
Northern Dusky Salamander	*Desmognathus fuscus*
Allegheny Dusky Salamander	*Desmognathus ochrophaeus*
Northern Redback Salamander	*Plethodon c. cinereus*
Northern Spring Salamander	*Gyrinophilus p. porphyriticus*
Northern Two-lined Salamander	*Eurycea bislineata*

Toads and Frogs	
Common Name	**Scientific Name**
Eastern American Toad	*Bufo a. americanus*
Gray Tree Frog	*Hyla versicolor*
Northern Spring Peeper	*Pseudacris c. crucifer*
Bullfrog	*Rana catesbeiana*
Green Frog	*Rana clamitans melanota*
Mink Frog	*Rana septentrionalis*

Toads and Frogs	
Common Name	**Scientific Name**
Wood Frog	*Rana sylvatica*
Northern Leopard Frog	*Rana pipiens*
Pickerel Frog	*Rana palustris*

Reptiles	
Common Name	***Scientific Name***
Bog Turtle*	*Glyptemys muhlenbergii*
Common Musk Turtle	*Sternotherus odoratus*
Eastern Box Turtle	*Terrapene carolina*
Slider	*Trachemys scripta*
Painted Turtle	*Chrysemys picta*
Snapping Turtle	*Chelydra serpentina*
Spiny Softshell	*Apalone spinifera*
Spotted Turtle	*Clemmys guttata*
Wood Turtle	*Glyptemys insculpta*
Common Gartersnake	*Thamnophis sirtalis*
Dekay's Brownsnake	*Storeria dekayi*
Eatern Ribbonsnake	*Thamnophis sauritus*
Milksnake	*Lampropeltis triangulum*
Northern Watersnake	*Nerodia sipedon*
Red-bellied Snake	*Storeria occipitomaculata*
Ring-necked Snake	*Diadophis punctatus*
Smooth Green Snake	*Liochlorophis vernalis*

***Federal Threatened Species List**

2000 – 2005 Breeding Bird Atlas Data, Atlas Blocks 4281A, 4281B, 4282B, 4282C, 4282D, 4381A, 4381B, 4381C, 4381D, 4382C			
Common Name	**Scientific Name**	**Breeding Status**	**NY Legal Status**
Alder Flycatcher	*Empidonax alnorum*	CO	P
American Crow	*Corvus brachyrhynchos*	CO	GS
American Goldfinch	*Spinus tristis*	CO	P
American Kestrel	*Falco sparverius*	CO	P
American Redstart	*Setophaga ruticilla*	CO	P

2000 – 2005 Breeding Bird Atlas Data, Atlas Blocks 4281A, 4281B, 4282B, 4282C, 4282D, 4381A, 4381B, 4381C, 4381D, 4382C			
Common Name	**Scientific Name**	**Breeding Status**	**NY Legal Status**
American Robin	*Turdus migratorius*	CO	P
American Woodcock	*Scolopax minor*	PO	GS
Bald Eagle	*Haliaeetus leucocephalus*	PR	T
Baltimore Oriole	*Icterus galbula*	CO	P
Bank Swallow	*Riparia riparia*	CO	P
Barn Swallow	*Hirundo rustica*	CO	P
Barred Owl	*Strix varia*	PR	P
Belted Kingfisher	*Megaceryle alcyon*	CO	P
Black-and-white Warbler	*Mniotilta varia*	CO	P
Black-billed Cuckoo	*Coccyzus erythropthalmus*	CO	P
Blackburnian Warbler	*Dendroica fusca*	CO	P
Black-capped Chickadee	*Poecile atricapillus*	CO	P
Black-throated Blue Warbler	*Dendroica caerulescens*	CO	P
Black-throated Green Warbler	*Dendroica virens*	CO	P
Blue Jay	*Cyanocitta cristata*	CO	P
Blue-headed Vireo	*Vireo solitarius*	CO	P
Blue-winged Teal	*Anas discors*	PR	GS
Blue-winged Warbler	*Vermivora pinus*	PO	P
Bobolink	*Dolichonyx oryzivorus*	CO	P
Broad-winged Hawk	*Buteo platypterus*	CO	P
Brown Creeper	*Certhia americana*	CO	P
Brown Thrasher	*Toxostoma rufum*	PO	P
Brown-headed Cowbird	*Molothrus ater*	CO	P
Canada Goose	*Branta canadensis*	CO	GS
Canada Warbler	*Wilsonia canadensis*	CO	P
Cedar Waxwing	*Bombycilla cedrorum*	CO	P
Chestnut-sided Warbler	*Dendroica pensylvanica*	CO	P
Chimney Swift	*Chaetura pelagica*	CO	P
Chipping Sparrow	*Spizella passerina*	CO	P
Cliff Swallow	*Petrochelidon pyrrhonota*	CO	P
Common Grackle	*Quiscalus quiscula*	CO	P
Common Loon	*Gavia immer*	PO	P-SC
Common Merganser	*Mergus merganser*	CO	GS
Common Raven	*Corvus corax*	PO	P
Common Yellowthroat	*Geothlypis trichas*	CO	P
Cooper's Hawk	*Accipiter cooperii*	CO	P-SC

2000 – 2005 Breeding Bird Atlas Data, Atlas Blocks 4281A, 4281B, 4282B, 4282C, 4282D, 4381A, 4381B, 4381C, 4381D, 4382C			
Common Name	**Scientific Name**	**Breeding Status**	**NY Legal Status**
Dark-eyed Junco	*Junco hyemalis*	CO	P
Downy Woodpecker	*Picoides pubescens*	CO	P
Eastern Bluebird	*Sialia sialis*	CO	P
Eastern Kingbird	*Tyrannus tyrannus*	CO	P
Eastern Meadowlark	*Sturnella magna*	CO	P
Eastern Phoebe	*Sayornis phoebe*	CO	P
Eastern Screech-Owl	*Megascops asio*	PO	P
Eastern Towhee	*Pipilo erythrophthalmus*	CO	P
Eastern Wood-Pewee	*Contopus virens*	CO	P
European Starling	*Sturnus vulgaris*	CO	UnP
Field Sparrow	*Spizella pusilla*	PR	P
Golden-crowned Kinglet	*Regulus satrapa*	PR	P
Grasshopper Sparrow	*Ammodramus savannarum*	PO	P-SC
Gray Catbird	*Dumetella carolinensis*	CO	P
Great Blue Heron	*Ardea herodias*	CO	P
Great Crested Flycatcher	*Myiarchus crinitus*	CO	P
Great Horned Owl	*Bubo virginianus*	CO	P
Green Heron	*Butorides virescens*	CO	P
Hairy Woodpecker	*Picoides villosus*	CO	P
Hermit Thrush	*Catharus guttatus*	CO	P
Hooded Merganser	*Lophodytes cucullatus*	PO	GS
Hooded Warbler	*Wilsonia citrina*	CO	P
House Finch	*Carpodacus mexicanus*	CO	P
House Sparrow	*Passer domesticus*	CO	UnP
House Wren	*Troglodytes aedon*	CO	P
Indigo Bunting	*Passerina cyanea*	CO	P
Killdeer	*Charadrius vociferus*	CO	P
Least Flycatcher	*Empidonax minimus*	CO	P
Magnolia Warbler	*Dendroica magnolia*	CO	P
Mallard	*Anas platyrhynchos*	CO	GS
Marsh Wren	*Cistothorus palustris*	PO	P
Mourning Dove	*Zenaida macroura*	CO	P
Mourning Warbler	*Oporornis philadelphia*	CO	P
Nashville Warbler	*Vermivora ruficapilla*	PR	P
Northern Flicker	*Colaptes auratus*	CO	P
Northern Goshawk	*Accipiter gentilis*	CO	P-SC
Northern Parula	*Parula americana*	PO	P

2000 – 2005 Breeding Bird Atlas Data, Atlas Blocks 4281A, 4281B, 4282B, 4282C, 4282D, 4381A, 4381B, 4381C, 4381D, 4382C			
Common Name	**Scientific Name**	**Breeding Status**	**NY Legal Status**
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	PO	P
Northern Saw-whet Owl	*Aegolius acadicus*	PO	P
Northern Waterthrush	*Seiurus noveboracensis*	PR	P
Osprey	*Pandion haliaetus*	PO	P-SC
Ovenbird	*Seiurus aurocapilla*	CO	P
Pied-billed Grebe	*Podilymbus podiceps*	PO	T
Pileated Woodpecker	*Dryocopus pileatus*	CO	P
Pine Warbler	*Dendroica pinus*	CO	P
Purple Finch	*Carpodacus purpureus*	CO	P
Red-breasted Nuthatch	*Sitta canadensis*	CO	P
Red-eyed Vireo	*Vireo olivaceus*	CO	P
Red-shouldered Hawk	*Buteo lineatus*	CO	P-SC
Red-tailed Hawk	*Buteo jamaicensis*	CO	P
Red-winged Blackbird	*Agelaius phoeniceus*	CO	P
Rock Pigeon	*Columba livia*	CO	UnP
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	CO	P
Ruby-throated Hummingbird	*Archilochus colubris*	CO	P
Ruffed Grouse	*Bonasa umbellus*	CO	GS
Savannah Sparrow	*Passerculus sandwichensis*	CO	P
Scarlet Tanager	*Piranga olivacea*	CO	P
Sharp-shinned Hawk	*Accipiter striatus*	CO	P-SC
Song Sparrow	*Melospiza melodia*	CO	P
Sora	*Porzana carolina*	PO	GS
Spotted Sandpiper	*Actitis macularius*	CO	P
Swainson's Thrush	*Catharus ustulatus*	PR	P
Swamp Sparrow	*Melospiza georgiana*	CO	P
Tree Swallow	*Tachycineta bicolor*	CO	P
Tufted Titmouse	*Baeolophus bicolor*	CO	P
Turkey Vulture	*Cathartes aura*	PO	P
Veery	*Catharus fuscescens*	CO	P
Vesper Sparrow	*Pooecetes gramineus*	PO	P-SC
Warbling Vireo	*Vireo gilvus*	PR	P
White-breasted Nuthatch	*Sitta carolinensis*	CO	P
White-throated Sparrow	*Zonotrichia albicollis*	CO	P
White-winged Crossbill	*Loxia leucoptera*	PR	P
Wild Turkey	*Meleagris gallopavo*	CO	GS

2000 – 2005 Breeding Bird Atlas Data, Atlas Blocks 4281A, 4281B, 4282B, 4282C, 4282D, 4381A, 4381B, 4381C, 4381D, 4382C			
Common Name	**Scientific Name**	**Breeding Status**	**NY Legal Status**
Willow Flycatcher	*Empidonax traillii*	PR	P
Wilson's Snipe	*Gallinago delicata*	PR	GS
Winter Wren	*Troglodytes troglodytes*	PR	P
Wood Duck	*Aix sponsa*	CO	GS
Wood Thrush	*Hylocichla mustelina*	PR	P
Yellow Warbler	*Dendroica petechia*	CO	P
Yellow-bellied Sapsucker	*Sphyrapicus varius*	CO	P
Yellow-billed Cuckoo	*Coccyzus americanus*	PR	P
Yellow-rumped Warbler	*Dendroica coronata*	CO	P
Yellow-throated Vireo	*Vireo flavifrons*	CO	P

Breeding Status Codes
CO = Confirmed Breeder
PR = Probable Breeder
PO = Possible Breeder

NY Legal Status Codes
P = Protected
P-SC = Protected, Special Concern
T = Threatened
Un = Unprotected
GS = Game Species

List of Mammals - Upper Salmon River Unit NY Gap Analysis Data-EMAP Hexagon 354 & 384			
#	**Common Name**	**Scientific Name**	**Model Status**
1	American Beaver	Castor canadensis	Predicted & Confirmed
2	Big Brown Bat	Eptesicus fuscus	Predicted & Confirmed
3	Black Bear	Ursus americanus	Predicted
4	Bobcat	Lynx rufus	Predicted
5	Common Muskrat	Ondatra zibethicus	Predicted & Confirmed
6	Common Raccoon	Procyon lotor	Predicted
7	Coyote	Canis latrans	Predicted & Confirmed

List of Mammals - Upper Salmon River Unit NY Gap Analysis Data-EMAP Hexagon 354 & 384			
#	**Common Name**	**Scientific Name**	**Model Status**
8	Deer Mouse	Peromyscus maniculatus	Predicted & Confirmed
9	E. small-footed Myotis	Myotis leibii	Predicted
10	Eastern Chipmunk	Tamias striatus	Predicted & Confirmed
11	Eastern Cottontail	Sylvilagus floridanus	Predicted & Confirmed
12	Eastern Gray Squirrel	Sciurus carolinensis	Predicted
13	Eastern Pipistrelle	Pipistrellus subflavus	Predicted
14	Eastern Red Bat	Lasiurus borealis	Predicted
15	Fisher	Martes pennanti	Predicted
16	Gray Fox	Urocyon cinereoargentus	Predicted & Confirmed
17	Hairy-tailed Mole	Parascalops breweri	Predicted
18	Hoary Bat	Lasiurus cinereus	Predicted & Confirmed
19	House Mouse	Mus musculus	Predicted
20	Indiana Myotis	Myotis sodalis	Predicted
21	Least Shrew	Cryptotis parva	Predicted
22	Little Brown Myotis	Myotis lucifugus	Predicted & Confirmed
23	Long-tailed Weasel	Mustela frenata	Predicted
24	Masked Shrew	Sorex cinereus	Predicted & Confirmed
25	Meadow Jumping Mouse	Zapus hudsonius	Predicted & Confirmed
26	Meadow Vole	Microtus pennsylvanicus	Predicted & Confirmed
27	Mink	Mustela vison	Predicted & Confirmed
28	N. Short-tailed Shrew	Blarina brevicauda	Predicted & Confirmed
29	Northern Flying Squirrel	Glaucomys sabrinus	Predicted & Confirmed
30	Northern Myotis (Keen's Myotis)	Myotis septentrionalis	Predicted & Confirmed
31	Norway Rat	Rattus norvegicus	Predicted & Confirmed
32	Porcupine	Erethizon dorsatum	Predicted
33	Pygmy Shrew	Sorex hoyi	Predicted

List of Mammals - Upper Salmon River Unit NY Gap Analysis Data-EMAP Hexagon 354 & 384			
#	Common Name	Scientific Name	Model Status
34	Red Fox	Vulpes vulpes	Predicted & Confirmed
35	Red Squirrel	Tamiasciurus hudsonicus	Predicted & Confirmed
36	River Otter	Lutra canadensis	Predicted & Confirmed
37	Short-tailed Weasel (Ermine)	Mustela erminea	Predicted & Confirmed
38	Silver-haired Bat	Lasionycteris noctivagans	Predicted
39	Smoky Shrew	Sorex fumeus	Predicted & Confirmed
40	Snowshoe Hare	Lepus americanus	Predicted
41	Southern Bog Lemming	Synaptomys cooperi	Predicted
42	Southern Flying Squirrel	Glaucomys volans	Predicted
43	Southern Red-backed Vole	Clethrionomys gapperi	Predicted & Confirmed
44	Star-nosed Mole	Condylura cristata	Predicted
45	Striped Skunk	Mephitis mephitis	Predicted
46	Virginia Opossum	Didelphis virginiana	Predicted
47	White-footed Mouse	Peromyscus leucopus	Predicted
48	White-tailed Deer	Odocoileus virginianus	Predicted & Confirmed
49	Woodchuck	Marmota monax	Predicted
50	Woodland Jumping Mouse	Napaeozapus insignis	Predicted
51	Woodland Vole	Microtus pinetorum	Predicted

Appendix VI - Listing of PFARs, Haul Roads, Access Trails, Town & County Roads in the Unit.

Public Forest Access Roads, (PFARs) in the Unit		
Forest	**Road Name**	**Length (miles)**
Hall Island State Forest	Hall Island Culvert	0.8
Total		**0.8**

Haul Roads in the Unit		
Forest	**Road Name**	**Length (miles)**
Salmon River State Forest	Harper's Ferry	1.0
Salmon River State Forest	Unnamed	0.8
O'Hara State Forest	Unnamed	0.8
Hall Island State Forest	Culvert	0.2
Hall Island State Forest	Lord & Winn	0.5
Hall Island State Forest	Dike	0.8
Battle Hill State Forest	Unnamed	0.1
New Acquisition	Yerdon Extension	0.3
Total		**4.5**

Miles of Access Trails in the Unit	
Forest	**Length (miles)**
Salmon River State Forest	1.2
O'Hara State Forest	0.9
Hall Island State Forest	2.6
Battle Hill State Forest	1.1
West Osceola State Forest	0.9
Total	**6.7**

County & Town Roads in the Unit			
Forest	**Road Name**	**Road Type**	**Length (miles)**
Salmon River State Forest	County Rte 2	County Road	2.1
Salmon River State Forest	County Rte 17	County Road	1.5
Salmon River State Forest	Kay Road	Town Road	0.2

County & Town Roads in the Unit			
Forest	**Road Name**	**Road Type**	**Length (miles)**
Salmon River State Forest	CCC Road	Seasonal Town Road	0.4
Salmon River State Forest	Noble Shores Road	Private ROW	0.4
O'Hara State Forest	County Rte 27	County Road	0.3
O'Hara State Forest	O'Hara Road	Seasonal Town Road	0.9
O'Hara State Forest	Teachout Road	Town Road	0.2
Hall Island State Forest	County Rte 17	County Road	2.7
Hall Island State Forest	County Rte 27	County Road	0.7
Hall Island State Forest	Dam Road	Town Road	0.3
Hall Island State Forest	Gay Drive	Town Road	0.4
Battle Hill State Forest	County Rte 17	County Road	2.6
Battle Hill State Forest	Harvester Mill Road	Town Road	0.6
Battle Hill State Forest	Old State Road	Seasonal Town Road	0.7
Battle Hill State Forest	Otto's Mills Road	Seasonal Town Road	1.4
West Osceola State Forest	County Rte 39	County Road	0.7
West Osceola State Forest	Barker Road	Town Road	0.2
West Osceola State Forest	Cassio Road	Town Road	0.5
West Osceola State Forest	Fox Road	Town Road	0.8
West Osceola State Forest	Redfield Road	Town Road	1.0
West Osceola State Forest	Ryan Road	Town Road	0.8
West Osceola State Forest	Waterbury Road	Town Road	0.3
Jackson Road FAS	Jackson Road	Town Road	0.2
New Acquisition	County Rte 17	County Road	0.2
New Acquisition	County Rte 47	County Road	0.1
New Acquisition	Waterbury Road	Town Road	0.3
New Acquisition	Yerdon Drive	Town Road	0.2
Total			**20.7**

Appendix VII - Taxes Paid on State Forests (2010 Tax Rolls)

Forest	Town(s)	Assessment	Town Taxes*	County Taxes	School Taxes (2009-2010)
Oswego 8	Redfield & Orwell	2,253,000	21,936	20,033	41,308
Oswego 9	Redfield & Florence	1,175,094	11,916	10,625	22,094
Oswego 10	Redfield & Orwell	3,570,300	30,664	31,529	68,938
Oswego 14	Redfield	1,548,700	15,616	13,799	28,620
Oswego-Lewis 1	Redfield & Osceola	1,882,700	17,824	15,315	32,823
Jackson Rd. Fishing Access	Orwell	60,000	207	513	943
Conservation Easement	Redfield	61,075	284	703	960
Total		**10,550,869**	**98,447**	**92,517**	**195,686**

* Town Taxes include the sum of town, highway and fire taxes

Appendix VIII - SEQRA Information

This Plan and the activities it recommends will be in compliance with State Environmental Quality Review (SEQR), 6NYCRR Part 617. The State Environmental Quality Review Act (SEQRA) requires the consideration of environmental factors early in the planning stages of any proposed action(s) that are undertaken, funded or approved by a local, regional or state agency. The Strategic Plan for State Forest Management (SPSFM) serves as the Generic Environmental Impact Statement (GEIS), regarding management activity on State Forests. To address potential impacts, the SPSFM establishes SEQR analysis thresholds for each category of management activity.

Management actions in this Plan are within the thresholds established in the SPSFM, therefore these actions do not require additional SEQR. Any future action that does not comply with established thresholds will require additional SEQR prior to conducting the activity.

This Unit Management Plan (UMP) does not propose pesticide applications of more than 40 acres, any clearcuts of 40 acres or larger or prescribed burns in excess of 100 acres. Therefore the actions in the plan **do not exceed the thresholds** set forth in the Strategic Plan/Generic Environmental Impact Statement for State Forest Management**.**

This Unit Management Plan also does not include any of the following:

1. Forest management activities occurring on acreage occupied by protected species ranked S1, S2, G1, G2 or G3
2. Pesticide applications adjacent to plants ranked S1, S2, G1, G2 or G3
3. Aerial pesticide spraying by airplane or helicopter
4. Any development of facilities with potable water supplies, septic system supported restrooms, camping areas with more than 10 sites or development in excess of other limits established in this plan.
5. Well drilling plans
6. Well pad densities of greater than one well pad in 320 acres or which does not comply with the limitations identified through a tract assessment
7. Carbon injection and storage or waste water disposal

Therefore the actions proposed in this UMP will be carried out in conformance with the conditions and thresholds established for such actions for such actions in the Strategic Plan/Generic Environmental Impact Statement **, and do not require any separate site specific environmental review (see 6 NYCRR 617.10[d]).**

Actions not covered by the Strategic Plan/Generic Environmental Impact Statement

Any action taken by the Department on this unit that is not addressed in this Unit Management Plan and is not addressed in the Strategic Plan/Generic Environmental Impact Statement may need a separate site specific environmental review.

Appendix IX - Upper Salmon River Unit Potential Stands for Maple Sap Production.

State Forest	Stand	Acres	Forest Type	DBH	Tree 1	Tree 2	Tree 3	Manage.	Treat.	Obj. For Type
Salmon River	A-1.5	79	10	SST	HM	YB	RM	UA	TGST	10
Salmon River	B-7	6.7	10	MST	BC	HM	RM	UA	TGST	10
West Osceola	A-1	8.6	10	MST	HM	RM	BC	PA	TNO	10

Appendix X – Summary of Comments from Initial Scope Meeting

Upper Salmon River Unit Management Plan
Initial Public Information Meetings
Public Input Summary

Purpose

This document provides a summary of the initial public input received prior to the development of the Draft Upper Salmon River Unit Management Plan (UMP). As such, it is being sent to people and groups that have participated in the public participation process by providing written public comments or attending the public information meeting held on May 7, 2009. The DEC greatly appreciates the time and input that people bring to the planning process.

Background

In May of 2009 the Division of Lands and Forests in Altmar, New York began seeking public participation in order to develop the draft Upper Salmon River Unit Management Plan. Located in New York's Tug Hill Region, the Upper Salmon River Unit includes five state forests, one fishing access site and conservation easement lands which encompass a total of 8,951 acres along the Upper Salmon River in Oswego, Oneida and Lewis counties. This Unit will also include a pending acquisition from National Grid that covers approximately 675 acres once the acquisition is finalized.

Public participation is an important and necessary part of the planning process. DEC manages and conserves State Forests for many recreational and ecosystem based values and services such as biodiversity, clean water, wildlife habitat, hiking and the list can go on.

The public was invited to participate through public information notices, press releases, newspaper articles, and direct mailing to about 300 potentially affected stakeholders such as nearby residents, town officials, recreational groups, and DEC Adopt-A-Natural Resource

volunteers. On May 7, 2009 a public scoping meeting was held at the Salmon River Hatchery to give an overview of the Unit and gather input from those attending.

Many people took valuable time from their schedules to attend the meeting and provided input by sharing comments with DEC staff at the Open House session, written input from comment cards provided to attendees, a "Seeking Public Input" questionnaire sent in mailings and by input or suggestions gathered from specific emails or letters concerning the Unit. The May 7th, meeting was attended by 106 registered attendees with an estimated 10 to 20 unregistered attendees as well. The majority of input was gathered from the comment cards and individuals sharing suggestions or concerns at the meeting which were written on easels for all to see. Fewer comments were made through the questionnaire or by written correspondence.

Public Participation Summary

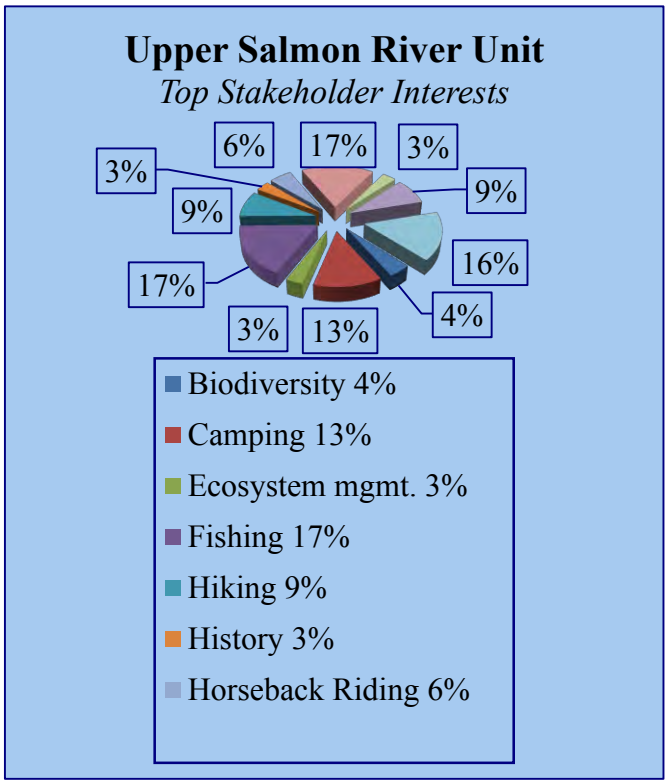


Figure 1 shows the top stakeholder interests reported to the DEC through the initial public participation process. Other reported interests include homeowner firewood program, production of forests products, minerals and mountain biking. This chart shows that many people use and value public forest lands for many different reasons.

It should be noted that the results reported here must be carefully interpreted and used only as a guide, because not every Upper Salmon River Unit Stakeholder choose (or had time) to attend the meeting or send correspondence.

There were over 76 comments gather from stakeholders to date. Eighteen comment cards were received. Fifteen comments were recorded on easels at the meeting. Six "Seeking Public Input on Plan Topics and Unit Issues" questionnaires were collected. The DEC also received 2 written letters and 3 emails addressing the unit. Table 1 is the summary of the comments gather concerning the unit.

Table 1 – COMMENTS RECEIVED BY GENERAL TOPIC
Topic: Economic Benefits
ATV riding is a booming business. Northern Oswego County would benefit greatly from ATV riders and many businesses in Redfield want ATV's.
Does the State Forest pay the same tax rate as individuals do?

Thousands of dollars to the local towns will come from ATV use, like the purchase of gas, food, lodging and so on.
Permits should be sold to people to ride ATV's and the money could be used to pay for officers to patrol and balance the State budget.
We need to be careful and not over use these resources for economic benefits. You can destroy the reasons people come here, to enjoy the environment.
Once the plan and any improvements have been completed a brochure then needs to be made and marketing of the area should be done
Ensure that the bass and walleye fishing on the Salmon River Reservoir is maintained and upgrades to encourage more fisherman to the area.
Topic: Ecosystem Management
A buffer zone should be left undisturbed when harvesting timber around wetlands and beaver meadows.
When planning timber harvests, you should receive input from wildlife biologists, fisheries personnel or other DEC personnel to see if you could manage the timber harvest and also benefit other programs before planning the harvest. I suggest possibly a sign off of other departments before any sale.
I would hope the DEC would continue the walleye pike stocking program on the Salmon River reservoir to ensure it succeeds.
I would like the forest department to clear cut some of the forest on Battle Hill SF so I can take my grandchildren small game hunting before I am too old or dead to enjoy the experience my dad and grandfather had with me.
I think base line water testing is needed on the water resources of the unit.
Topic: General
This unit should include the whole Salmon River Watershed including the area in Region 6.
My wife and I own land near the Salmon River reservoir so that we might fish and explore the reservoir. One of the reasons we purchased the property was that the shoreline of the reservoir was restricted from development.
Continue to have open public meetings to keep the public involved and informed.
I thought the meeting at the hatchery was not handled well. Felt that the participants should be allowed to comment by being able to speak to the audience. The comment on the comment card suggested having another meeting to allow people to make comments.
I personally felt the presentation and comment period was very informative and handled in an orderly manner while addressing most of the participants concerns.
Continue to have open public meetings to keep the public involved and informed.
I would like to know how to become a Salmon River Steward that is part of the Sea Grant Program.
I am adamantly opposed to relinquishing any exploration and/or development rights to any of the properties subject to this UMP or any State lands for that matter.
How can you let landowners on the east end of the reservoir make roads, put in docks, dig out channels for their use below the FREC line (753')? Their deed covenants restrict any disturbance within 100' of the FERC line. Someone needs to do something
Topic: Recreation
State land should be open to ATV travel same as National Forest land.
ATV's are not good for State Land in the Upper Salmon River area.

My son is a paraplegic and cannot ski but sure loves to ride his 4 wheeler with his friends and family. This is why ATV recreational use is very important to us.
ATV's on private roads tear up the dirt roads to get to state land. There is also a concern on Chasa Rosa Drive in Little America with ATV's and small kids playing in the road.
You have State trails that the snowmobiles use, why can't the ATV people use the same trails?
I as an ATV rider would like to see that 600 feet open to connect the trails together.
I would like to see a 4x4 trail and four wheelers around the Reservoir to Redfield, Osceola and Williamstown.
I would like to see bathrooms (waste receptacles) on all recreation areas. If you have people you need these things.
I feel the NYSDEC should help the ATV industry instead of just writing tickets. The ATV people pay many taxes in the state and get nothing much in return. The snowmobiles had the same problems back in the 70's as we are facing now. NYS need to look ahead instead of living in the past.
When there are issues concerning access to state forests we urge that tranquility for critters and hikers be given paramount consideration. Please keep ATV's and other rut/noise makers out or at least a minimum.
The Redfield Snowmobile and Recreation Club have some snowmobile trails on these forests. We would like to see some additional informational Kiosks and possibly one more parking area.
The DEC needs to recognize ATV's as a huge recreational activity, and open some areas of these units for ATV use. Please provide ATV trails.
Allow hunters to use ATV's to access State land and allow them to retrieve game with them.
Make the land accessible by ATV's so more than just the greenie's can see and use it.
Open the roads that are already there to ATV's so I do not have to ruin my vehicle on the roads you do not maintain and never have
Need more trails open to ATV's.
Fishing access and rights-of-ways to trout fishing in Redfield need to be properly marked and trails cleaned out.
We need more access to state lands. Open up logging road access, Jerry Warren Point Road should be used properly not gated
If handicap access areas are to be designated for ATV use you need to have parking areas to accommodate them.
We need more parking areas for hunters and persons enjoying these forest lands.
I would hope the DEC would investigate the possibility of developing an ATV trail system similar to the horse riding trail system on State lands in Glenfield, NY.
I would like to see a better enforcement policy for maintaining cleaner sites which the public uses.
Why has the draft for an ATV trail system on State land, for the last 6 years, been put on the back burner?
I think ATV's do less damage than logging which tears up the land.
We would like to see ATV's be treated fairly, or at least as fair as the snowmobilers.
Hunting, fishing and trapping should continue to be allowed on all lands of this UMP as well as all surrounding State lands.
I think it is critical that the public is made aware that camping on the reservoir is regulated and that it should be only allowed at designated areas.

Access to campsite adjacent to the reservoir should be from the water only to eliminate destruction of the surrounding forest and help eliminate litter.
Facilities should be supplied to each campsite for garbage and it should be picked up on a regular basis.
I recommend a fee permit system be put into place for campsite users to pay for the maintenance of the sites.
A Salmon River Reservoir clean up day every fall would be helpful in maintaining the area.
An agreement should be worked out with Brookfield Power to allow DEC Officers enforcement powers on the buffer zone area between the water's edge and State Land with respect to camping.
I am personally opposed to ATV use on these lands.
If the outcome be that ATV's are allowed they should be restricted to daylight hours and prohibited during the northern zone big game hunting season.
Do not restrict the use of snowmobiles for use in trapping and small game hunting (coyote & rabbit).
ATV's that are in clubs clean up and repair trails to keep the forest clean.
I would like to see ATV's allowed on State land in my life time!
Keep things quiet in the forest, no ATV's.
Re-evaluate criteria for access of mobility impaired, requirements seem to be stringent.
Look at New Hampshire's program for ATV access to public lands, NY State is missing out on money, similar to snowmobiling activities.
Before ATV's get trails, how can we be guaranteed they won't tear up the land?
With organized riding, ATV's have proven to be safe for land.
ATV's have rights too, we pay to register our machines, give us the same privileges that snowmobilers have.
By not opening trails for ATV's we will be supporting other states who are ATV friendly like Pa, WV, Ohio and others.
Topic: Stewardship
The DEC should welcome the use of ATV's on the existing roads and trails on all of your lands. The ATV's could help maintain and police the land.
There should be some program for controlling forest tent infestations and other pests on state land so they don't spread onto private lands.
Forests should be monitored more for diseases and possibly implement a control program for forest pests when needed.
I think that conservation easements would be better than State acquisitions; the State owns enough land now.
Develop a summer program with part time personnel to provide trash-up and campsite maintenance.
I would support any future State acquisition as long as the property will continue to pay local taxes and the State maintains and manages the property.
Primary concern is that these properties remain in working forests, not only for the good of the ecosystem but also for the local and upstate economy in creating and maintaining jobs.
I would like to see the acquisition of lands adjacent to this UMP be a priority for the DEC.
I feel it would be important to purchase any lands adjacent to the West Osceola State Forest to make the property into a larger single block of State land.
More State acquisition will make larger blocks of undeveloped land and make it more

attractive to bears and bobcats which are present but not prevalent.
Do more clear cutting and reforestation of these areas for new growth and wildlife habitat.

Please note: Listing of these comments does not imply any endorsement, agreement or disagreement by the DEC. The comments are listed to show the many viewpoints and ideas received during the public participation phase. As such, this document does not include a response section.

The comments in Table 1 have, in some cases, been edited for length and clarity. Comments that express the same exact idea or concern were listed once to save space.

Appendix XI – Summary of Public Comments or Concerns from Draft Comment Period

The following is a summary of the comments received on the Upper Salmon River UMP Draft along with a response or reference where the plan addresses the concern. These include comments received from the public by letters, emails, phone calls, personal contacts and shared during the Public Comment meeting for this draft.

1. If the Redfield Day Use Area is developed you need restroom facilities to accommodate the users in order to keep the area clean.

   Refer to management recommendation Action 3.2.3.

2. The proposed parking area on the Redfield Day Use Area, north of the Route 17 Bridge is too small and will only add congestion and encourage miss use. This parking area does not take into consideration of the home and bed & breakfast across the road.

   Refer to management recommendation Action 3.2.4. The department feels that a small parking area would reduce congestion and limit misuse. The land owner across from the proposed parking area has also commented and would like to see the parking are developed and access through the Day Use Area from this point be restricted.

3. The Department needs to provide restroom facilities at the Daye Use Areas and campsites to control human waste problems.\

   Refer to management recommendation Action 3.2.3. The department has recommended the development of restroom facilities for the Redfield Daye Use Area. The Department however, feelsl it is impractical and cost prohibitive to develop restroom facilities for the primitive campsites located around the reservoir.

4. It is a good idea to gate some of the current access to Redfield Island Day Use Area to reduce heavy use and illegal night time activities which brings in trash and garbage.

   Refer to management recommendation Action 3.1.1 and 3.2.4.

5. Need increased Law Enforcement at Redfield Day Use Area especially on summer weekends.

   The Department is aware of the problems that occur at the Redfield Daye Use Area which can require increased enforcement at times. Solutions to these problems are addressed in Actions 3.1.1, 3.1.4, and 3.2.1. These recommendations are hoped to control and change the negative uses of the area. The Departments Law Enforcement agencies will continue to monitor the areas use patterns and determine when enforcement focus on the area is necessary.

6. The Department needs more boat patrols and enforcement of the Rules & Regulations on State Lands adjacent to the reservoir and especially the easement lands.

   The Department is aware of the problems that occur on the State Lands adjacent to the Salmon River reservoir. Solutions to these problems are addressed in Actions 3.2.1 and 3.2.9. These recommendations are hoped to control and change the negative uses of the area. The Departments Law Enforcement agencies will continue to monitor the areas use patterns and determine when enforcement focus on the area is necessary.

7. The Department should improve log landings to better accommodate public parking once a timber sale in completed.

   Refer to management recommendation Action 3.2.10.

8. The plans should emphasize that seeps and springs are important headwaters for the brook trout fishery.

   Emphasis was added to the "Spring Seep and Vernal Pools" section about the importance of this resource for the brook trout fishery.

9. The plan should include the streams with Public Fishing Rights that are adjacent to the Units properties.

   The Department has decided to not include the management of the Public Fishing Rights for this area into the Upper Salmon River UMP. However the Public Fishing Rights that are adjacent to this Unit have been included on the "Existing Recreational Resources Maps".

10. Remove the statement that infers that Bobcat and Fisher need or are associated with large blocks of forest land or core forests.

    Changes have been made which removed the inference that Bobcat and Fisher need large blocks of forest lands.

11. The mention that Black Bear are not common in the area and that Bobcat populations are

low in numbers is inaccurate and should be reworded.

The wording the mentions that Black Bear are not common and that Bobcat populations are low have been removed and reworded.

12. The plan should address how the department will manage activity around bear dens.

    Refer to management recommendation Action 1.4.7. This action has been added to specifically address management activities around an active bear den.

13. Trapping should be discussed more and information presented on signs or trail heads to help make the public aware that the sport of trapping is actively occurring on the Unit lands.

    Refer to management recommendation Action 4.4.3. This action has been added to specifically address the request to emphasis the on going activities of traditional outdoor sporting activities of hunting, fishing and trapping.

14. The reference that hunting demand has declined is inaccurate based upon a U.S. Fish and Wildlife survey of New York State resident fishing and hunting numbers published in a 2011.

    Based upon the more current survey data this reference and associated discussion has been adjusted on page 51 of this plan.

15. Would like to see the proposed parking area north of the Rte 17 Bridge developed and the access gated to allow a small number of vehicles to park but restrict vehicle traffic through the Day Use Area and along side of Route 17 during the summer. Restricting vehicle access should help eliminate illegal night time activities which are very disturbing to the local residents.

    Refer to management recommendation Action 3.2.4.

Comments were also received during the draft comment period concerning the management of the Salmon River Reservoir water levels. This plan focuses on the management of State Forest lands, Conservation Easement lands and fisherman access boat launches and the lands and waters within those property boundaries. The property which includes the Salmon River Reservoir is not owned by the State of New York and this Plan will not address the management of reservoir water levels or the fisheries it affects. The Department will continue to participate in the management and overseeing of the Salmon River water flows and the fishery resources through the ongoing Federal Energy Regulatory Commission licensing of the hydro electric facility associated with this river system.

The following are **Salmon River Reservoir Water level concerns and comments** received during the Upper Salmon River UMP comment period. *No responses have been provided since*

the plan does not address the management of the Salmon River Reservoir.

1. The water level management on the Salmon River Reservoir is out of control and need better management to accommodate the fishery and fire protection. The State should push this in discussions with Brookfield Power Company.

2. DEC should exercise its authority to ensure that the target levels in the FERC license agreement for the Salmon River reservoir are enforced.

3. The department should eliminate whitewater release during the summer.

4. The department should make the power company monitor the water levels daily and post online to the public.

5. There needs to be more input by the DEC to maintain the reservoir water level higher during the summer.

6. The Department received a copy of a petition sent to Brookfield Power, the Federal Energy Regulations Commission and the Towns of Orwell and Redfield. The petition requests that the water elevation in the Salmon River Reservoir be maintained between 940 and 933 during the time frame of April 1st through September 30th.

Appendix XII - Maps