New York State

Department of Environmental Conservation

Division of Lands & Forests | Bureau of State Land Management

CHAUTAUQUA

UNIT MANAGEMENT PLAN

Towns of Chautauqua, Sherman, Clymer, Harmony, North Harmony, Busti, Stockton, Charlotte, Cherry Creek, Gerry, Ellington

County of Chautauqua

August 2013

NYS Department of Environmental Conservation

Region 9

178 Point Drive North
Dunkirk, N.Y. 14048

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State Forester **ROB DAVIES**

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GOVERNOR

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COMMISSIONER

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

MEMORANDUM

TO: The Record

FROM: Joseph J. Martens JM

DATE: AUG 13 2013

SUBJECT: Final Chautauqua County UMP

The Unit Management Plan for Chautauqua County Unit has been completed. The Plan is consistent with Department policy and procedure, involved public participation and is consistent with the Environmental Conservation Law, Rules and Regulations. The plan includes management objectives for a ten year period and is hereby approved and adopted.

Chautauqua
Unit Management Plan

A planning unit consisting of 14 State Forests, in Chautauqua County

August 2013

Prepared by the Chautauqua Unit Management Planning Team:

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New York State Department of Environmental Conservation

Division of Lands and Forests

Region 9

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www.dec.ny.gov/lands/22556.html

DEC'S MISSION

"The quality of our environment is fundamental to our concern for the quality of life. It is hereby declared to be the policy of the State of New York to conserve, improve and protect its natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being." - Environmental Conservation Law 1-0101(1)

VISION STATEMENT

State Forests on the Chautauqua Management Unit will be managed in a sustainable manner by promoting ecosystem health, enhancing landscape biodiversity, protecting soil productivity and water quality. In addition, the State Forests on this unit will continue to provide the many recreational, social and economic benefits valued so highly by the people of New York State. DEC will continue the legacy which started more than 80 years ago, leaving these lands to the next generation in better condition than they are today.

This plan sets the stage for DEC to reach these ambitious goals by applying the latest research and science, with guidance from the public, whose land we have been entrusted to manage.

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PREFACE

STATE FOREST OVERVIEW

The public lands comprising this unit play a unique role in the landscape. Generally, the State Forests of the unit are described as follows:

- large, publicly owned land areas;
- managed by professional Department of Environmental Conservation (DEC) foresters;
- green certified jointly by the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI);
- set aside for the sustainable use of natural resources, and;
- open to recreational use.

Management will ensure the **sustainability**, **biological diversity**, and protection of **functional ecosystems** and optimize the ecological benefits that these State lands provide, including the following:

- maintenance/increase of local and regional biodiversity
- response to shifting land use trends that affect habitat availability
- mitigation of impacts from invasive species
- response to climate change through carbon sequestration and habitat, soil and water protection

Legal Considerations

Article 9, Titles 5 and 7, of the Environmental Conservation Law (ECL) authorize DEC to manage lands acquired outside the Adirondack and Catskill Parks. This management includes **watershed protection**, production of **timber** and other forest products, **recreation**, and **kindred purposes**.

For additional information on DEC's legal rights and responsibilities, please review the statewide Strategic Plan for State Forest Management (SPSFM) at http://www.dec.ny.gov/lands/64567.html. Refer specifically to pages 33 and 317.

MANAGEMENT PLANNING OVERVIEW

The Chautauqua Management Unit - Unit Management Plan (UMP) is based on a long range vision for the management of Boutwell Hill State Forest, North Harmony State Forest, Mount Pleasant State Forest, Panama State Forest, Chautauqua Gorge State Forest, Stockton State Forest, Brokenstraw State Forest, Harris Hill State Forest, Hatch Creek State Forest, Whalen Memorial State Forest, Hill Higher State Forest and Wellman State Forest, balancing long-term ecosystem health with current and future demands. This Plan addresses management activities on this unit for the next ten years, though some management recommendations will extend beyond the ten-year period. Factors such as budget constraints, wood product markets, and forest health problems may necessitate deviations from the scheduled management activities.

Public Participation

One of the most valuable and influential aspects of UMP development is public participation. Public meetings are held to solicit input and written and verbal comments are encouraged while management

plans are in draft form. The Chautauqua Unit Management Plan used press releases and a public open house during the unveiling of the Chautauqua County Greenway Plan in Mayville, New York.

Strategic Plan for State Forest Management

This unit management plan is designed to implement DEC's 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.

DEC'S MANAGEMENT APPROACH AND GOALS

Forest Certification of State Forests

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 may assure consumers that the raw material was harvested from well-managed forests.

DEC's Management Approach and Goals

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.

FSC
www.fsc.org

The mark of responsible forestry
FSC® C002027

SUSTAINABLE FORESTRY INITIATIVE
SFI-00102

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 SPSFM page 39 at http://www.dec.ny.gov/lands/64567.html.

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 areas, and buffers around those areas, such as along streams, ponds and other wetlands, where activity is limited.

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

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. 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 smaller patch openings for individual trees or small groups of trees that develop in the shade but need extra room to grow to their full potential.

State Forest Management Goals

Goal 1 – Provide Healthy and Biologically Diverse 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. The Department will manage State Forests so that they demonstrate a high degree of health as measured by multiple criteria, including the biodiversity that they support.

Goal 2 – Maintain Man-made State Forest Assets

Man-made assets on State Forests include structures, boundary lines, trails, roads and any other object or infrastructure that exists because it was put there by people. Many of these items need no more than a periodic check to make sure they are still in working order. Others need regular maintenance to counteract the wear of regular use. It is the Department's intent to ensure that all man-made items on State Forests are adequately maintained to safely perform their intended function.

Goal 3 – Provide Recreational Opportunities for People of all Ages and Abilities

State Forests are suitable for a wide variety of outdoor recreational pursuits. Some of these activities are entirely compatible with one another, while other activities are best kept apart. Equally varied are the desires of individuals for challenge, solitude, or ease of access. While not all people will be able to have the experience they desire on the same State Forest. The Department will endeavor to provide recreational opportunities to all in settings varying from those totally undeveloped to those improved for motorized uses.

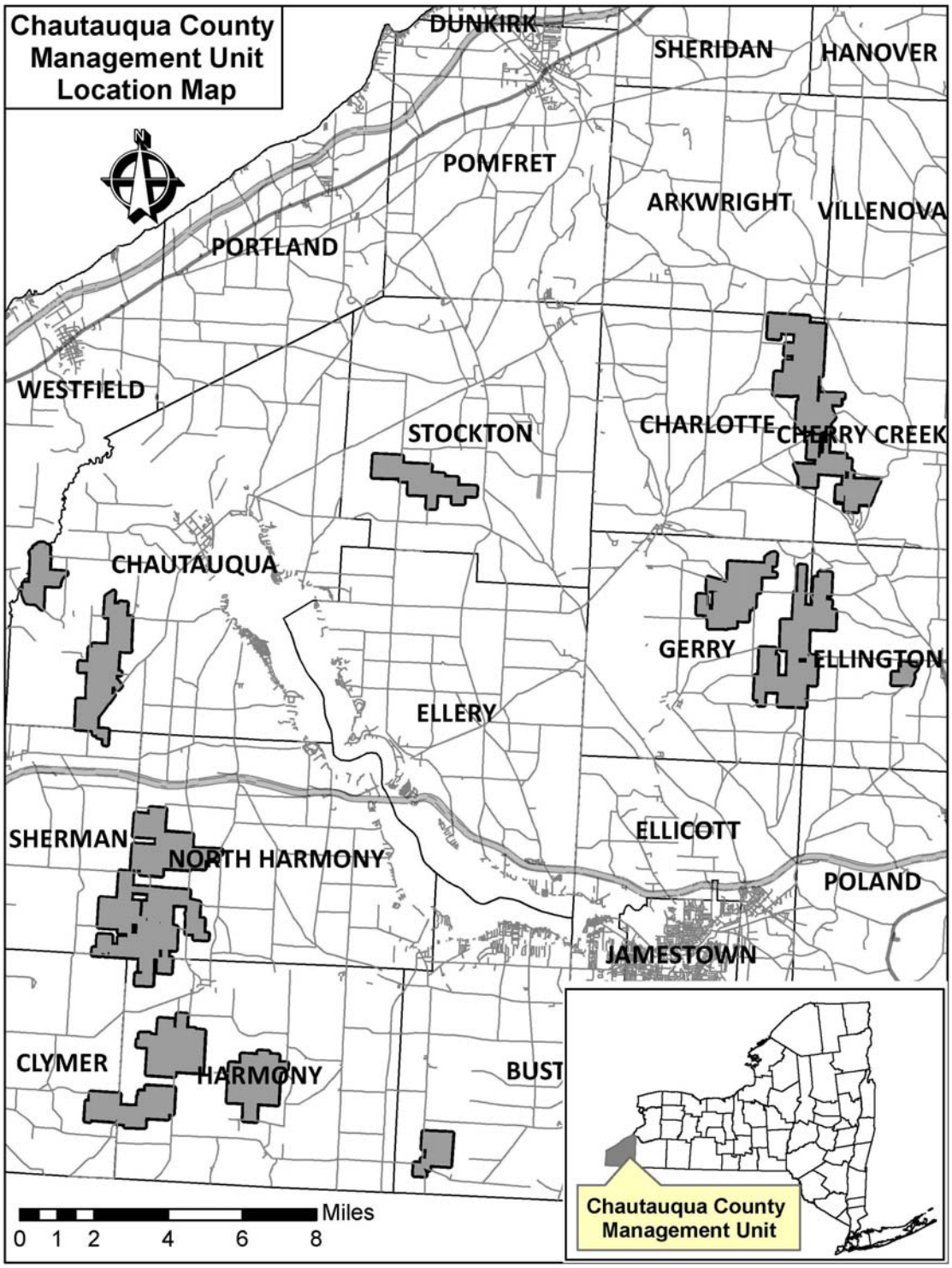
Goal 4 – Provide Economic Benefits to the People of the State

ECL §1-0101(1) provides in relevant part that "It is hereby declared to be the policy of the State of New York to conserve, improve and protect its natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall **economic** and social well-being." In considering all proposed actions, the Department will attempt to balance environmental protection with realizing potential economic benefit.

Goal 5 – Provide a Legal Framework for Forest Conservation and Sustainable Management of State Forests

Staff must have clear and sound guidance to direct their decisions and actions. Likewise, the public must have clear information regarding what they are and are not allowed to do on State Forests. Both of these are provided by well-written laws, regulations and policies. The Department will work to improve existing legal guidance that has proved to be inadequate and create new guidance that is needed but does not yet exist.

LOCATION MAP



INFORMATION ON THE CHAUTAUQUA MANAGEMENT UNIT

STATE LANDS IN THE UNIT

Table I.A. contains the names of the state land facilities that make up this unit. A web page has been developed for each of the State Forests. Each web page features an updated map of the State Forest with recreational information and natural features.

Table I.A. – State Lands in the Unit

Facility Name and Webpage	Acreage
Boutwell Hill State Forest – http://www.dec.ny.gov/lands/8270.html	2,944
North Harmony State Forest – http://www.dec.ny.gov/lands/8268.html	2,561
Mount Pleasant State Forest – http://www.dec.ny.gov/lands/51674.html	1,522
Panama State Forest – http://www.dec.ny.gov/lands/42259.html	1,224
Chautauqua Gorge State Forest – http://www.dec.ny.gov/lands/42257.html	538
Stockton State Forest – http://www.dec.ny.gov/lands/49442.html	977
Brokenstraw State Forest – http://www.dec.ny.gov/lands/42260.html	951
Harris Hill State Forest – http://www.dec.ny.gov/lands/8269.html	2,271
Hatch Creek State Forest – http://www.dec.ny.gov/lands/42258.html	1,283
Whalen Memorial State Forest – http://www.dec.ny.gov/lands/46452.html	1,325
Hill Higher State Forest – http://www.dec.ny.gov/lands/42255.html	1,156
Wellman State Forest – http://www.dec.ny.gov/lands/49799.html	447
	17,199

Facilities Not Included in this UMP

The Chautauqua County Wildlife Management Areas which include Jaquins Pond, Chautauqua Lake Fish and Wildlife Management Area, Kabob, Watts Flats, Alder Bottom, Clay Pond, Hartson Swamp and Canadaway Creek are not included in this plan. There will be a separate plan for Wildlife Management Areas in Region 9.

SOILS

Soils provide the foundation, both figuratively and literally, of forested ecosystems. They support an immense number of microorganisms, fungi, mosses, insects, herpetofauna and small mammals which

form the base of the food chain. They filter, store water, and also provide recycle nutrients essential for all plant life. For information on DEC's policies for the protection of forest soils, as well as water resources please see SPSFM page 108 at http://www.dec.ny.gov/lands/64567.html.

Table I.B. - Soils (see Figure 1 for maps)		
Facility Name	**Predominant Soil Type(s)**	**Acres**
Boutwell Hill Cha 1	Busti Silt Loam	523.7
North Harmony Cha 2	Busti Silt Loam	764.5
Mount Pleasant Cha 3	Busti Silt Loam	710.9
Panama Cha 4	Fremont Silt Loam	489.0
Chautauqua Gorge Cha 5	Busti Silt Loam	351.0
Stockton Cha 6	Chautauqua Silt Loam	241.0
Boutwell Hill Cha 7	Busti Silt Loam	577.5
Brokenstraw Cha 8	Busti Silt Loam	374.7
Harris Hill Cha 9	Fremont Silt Loam	478.9
Hatch Creek Cha 10	Fremont Silt Loam	505.7
Whalen Memorial Cha 11	Busti Silt Loam	461.1
Harris Hill Cha 12	Fremont Silt Loam	432.6
Hill Higher Cha 13	Fremont Silt Loam	297.0
Wellman Cha 14	Fremont Silt Loam	314.6

WATER RESOURCES

DEC's GIS data contains an inventory of wetlands, vernal pools, spring seeps, intermittent streams, perennial streams, rivers and water bodies on the unit. This data is used to establish special management zones and plan appropriate stream crossings for the protection of water resources. Table I.C. contains a summary of water resources data on the unit.

Table I.C. – Water Resources (see Figure 2 for maps)	
Watersheds	
Hydrologic unit(s)	French (05010004)
	Conewango (05010002)
	Upper Allegany (05010001)
	Chautauqua-Conneaut 04120101
Primary source aquifer	Jamestown Area
	0 ac. on State Forest

Municipal water supply (serving municipalities of over 5,000 people)		Chautauqua Creek
		546.3 ac.
		Chautauqua Lake
		210.5 ac.
Wetlands		
Regulated wetland		660.9 ac.
Unregulated wetland (less than 12.4 acres)		224.1 ac.
Streams/Rivers		
Perennial streams/rivers	AA or A	2.7 mi.
	B	1.53 mi.
	C	26.6 mi.
	D	0.0 mi.
Trout streams/rivers	AA (T), A (T), B (T) or C (T)	6.25 mi.
Water Bodies		
Water bodies (open-water ponds and lakes)		117.8 ac.

Major Streams, Rivers and Water Bodies

Chautauqua Creek to the north of Chautauqua Gorge is a point of interest to the local community. The stream supports an excellent seasonal run of Lake Erie steelhead and receives high angling pressure from September through April. Some people utilize the stream for swimming during summer months.

Natural Heritage has the stream listed as a confined river.

BIODIVERSITY

Information regarding biodiversity has been gathered to support the following goals:

- "Keep Common Species Common", by maintaining landscape-level habitat diversity and a wide variety of naturally occurring forest-based habitat as well as managing plantations according to DEC natural resources policy.
- Protect and in some cases manage known occurrences and areas with potential to harbor endangered plants, wildlife and natural communities.
- Consider other "at-risk species" whose population levels may presently be adequate but are at risk of becoming imperiled due to new incidences of disease or other stressors.

Common Species

The following information sources indicate which common species (among other species) are present over time:

INFORMATION ON THE CHAUTAUQUA MANAGEMENT UNIT

BIODIVERSITY

- NYS Breeding Bird Atlas — Block Numbers - 1166B, 1166D, 1167B, 1167D, 1168B, 1168D, 1266A, 1266C, 1266D, 1267A, 1267C, 1268C, 1365A, 1366C, 1368A, 1368B, 1369C, 1468B, 1468D, 1469B, 1469D, 1568A, 1568C, 1569A, 1569C

  Breeding Bird Atlas blocks can be searched at http://www.dec.ny.gov/cfmx/extapps/bba/ . A list of bird species can be found in Appendix D.

- Herp Atlas — Block - 2092, 2093, 2094, 2190, 2191, 2193, 2194, 2291, 2292, 2293

  Herp Atlas information on amphibians, toads, frogs, turtles, lizards and snakes can be found at http://www.dec.ny.gov/animals/7140.html . A list of these species can be found in Appendix E.

- Game Species Harvest Levels for Chautauqua County
  a. Deer Harvest 2011 — 8,270
  b. Bear Harvest 2011 — 55
  c. Turkey Harvest — 480 Fall 2010, 965 Spring 2011

Habitat

The following information provides several representations of habitat types on the unit.

Vegetative Types and Stages

Table I.D. - Vegetative Types and Stages within the Unit (see Figure 4 for maps)

Vegetative Type	Acres by Size Class				% of Total
	0 -5 in	6 - 11 in	12+ in	Other	
Natural Forest Hardwood	911.1	1,876.6	7,995.8	0	62.7%
Natural Forest Conifer	45.7	68.6	726	0	4.9%
Plantation Softwoods	78.1	880.2	3,537.4	0	26.1%
Plantation Hardwoods	3.0	11.0	129.2	0	0.8%
Wetland	10.2	15.6	37.0	245.8	1.8%
Ponds	0	0	0	110.5	0.6%
Open/Brush	0	0	0	190.1	1.1%
Other (Roads, Parking lots, etc.)	0	0	0	327.1	1.9%
Total (Acres)					100%

Significant Natural Communities

Table I.E. - Significant Natural Communities within the Unit

Community Name	Vegetative Type	Facility Name / Stand Numbers	NYNHP Rank	Acreage
Representative Sample Areas of Commonly Occurring Natural Communities				

Hemlock-Northern Hardwood Forest	Forest	Chautauqua Gorge stands 1, 3.2, 4	S4	115.5
Shale Cliff and Talus Community	Open Uplands	Chautauqua Gorge, Stand 1	S3	5.5
Confined River		Chautauqua Gorge, Stand 1	S3S4	2.4
			Total (Acres):	123.4

Resource Protection Areas

In the course of practicing active forest management, it is important to identify areas on the landscape that are either reserved from management activity or where activity is conducted in such a manner as to provide direct protection and enhancement of habitat and ecosystem functions. For more information on these protective measures, see SPSFM page 85 at http://www.dec.ny.gov/lands/64567.html.

Special Management Zones (SMZs) provide continuous overstory shading of riparian areas and adjacent waters, by retaining sufficient tree cover to maintain acceptable aquatic habitat and protect riparian areas from soil compaction and other impacts. DEC's buffer guidelines also maintain corridors for movement and migration of all wildlife species, both terrestrial and aquatic. Buffers are required within SMZs extending from wetland boundaries, high-water marks on perennial and intermittent streams, vernal pool depression, spring seeps, ponds and lakes, recreational trails, campsites and other land features requiring special consideration. See Figure 2 for a map of the SMZs as applied on the unit.

Habitat Related Demands

The Chautauqua unit contains a variety of tree species that require varying treatments. The following practices are options of silvicultural applications that are used to regenerate, maintain and protect forest stands.

Fire is an acceptable method of promoting oak regeneration. Mature oak provides hard mast for game and non-game species. Fire could be appropriate for the more upland sections of the eco regions.

Herbicides will be used to eliminate invasive and non-native species such as ferns, giant hogweed or low value shade tolerant shrubs and saplings. The applications of herbicides promote native understory plant species to flourish and targets specific species of tree regeneration. Wildlife utilizes native species better than non-native ones. Herbicide application removing invasive species helps promote higher plant species diversity which would serve a more diverse group of wildlife. Herbicide could also be used to clear invasive shrubs from old fields to keep the areas as grass fields promoting wildlife that prefer that cover.

Best Management Practices (BMPs), Retention tree, Rutting, Clearcutting and SMZ guidelines have been developed to serve as a statewide standard for timber sales. Guidance is set for retention of standing and down trees reserved for wildlife habitat. Limits are placed for rutting depths to protect soil communities. BMPs lead to less topsoil erosion and stream siltation promoting healthier plant communities and stream life. Vernal pools and riparian zones protected with SMZ guidelines promote water sources for amphibians and fish. Plantation conversion to native hardwood stands promotes long-term stability with native species but also provides a short term period of early successional habitat for certain wildlife species.

Thinning of conifer plantations stimulates understory vegetation for food, cover and creates woody debris for additional cover. Drawbacks of thinning under conifer plantations include the promotion of

shade tolerant ferns like hay scented and bracken ferns. Some conifer plantations like Norway spruce and red pine on shallow soils do not hold up well to wind after thinning.

Uneven-aged harvests remove mature trees and declining trees of many ages. This stimulates understory growth of native shade tolerant plant species for low food and cover. This also stimulates growth of healthier residual trees and creates cover with large woody debris.

At-Risk Species

The presence of at-risk species and communities on the Chautauqua Management Unit and in the surrounding landscape has been investigated to inform appropriate management actions and protections. This investigation was conducted in development of this UMP and the associated inventory of State Forest resources. A more focused assessment will be conducted before undertaking specific management activities in sensitive sites. Appropriate protections may include reserving areas from management activity or mitigating impacts of activity. For more information on protection of at-risk species, please see SPSFM page 115 at http://www.dec.ny.gov/lands/64567.html.

Investigation included the following:

- A formal survey was conducted on this Unit for West Virginia White in May of 2002 by the New York Natural Heritage Program.
- A formal survey was conducted on this Unit for Pied-billed Grebe in May of 2002 by the New York Natural Heritage Program.
- Element Occurrence Records for the New York Natural Heritage Program's Biological and Conservation Data System were consulted for information.
- Consultation of NHP species guides.
- Consultation of the NYS Comprehensive Wildlife Conservation Strategy

Table I.F. Lists the confirmed and predicted species on the State Forests that comprise this Unit and in the larger landscape, as well as their required habitats.

Table I.F. - At-Risk Species*				
Species Name	**NYNHP Rank**	**Habitat**	**Record Source**	**NYS Status**
Confirmed or Predicted within the Unit				
West Virginia White	S3	Found in moist, rich, deciduous or mixed woods with the larval hostplant, toothwort. Many locations are near streams.	(CONF)	UNL
Pied-billed Grebe	S3B,S1N	Quiet marshes, marshy shorelines of ponds, shallow lakes, or marshy bays and slow moving streams with sedgy banks or adjacent marshes	(CONF)	T
Blackchin Shiner	S1	Cool, clear, and shallow sections of lakes and slow regions of streams with weedy vegetation, very little siltation, and a sandy substrate	(PRED)	UNL
Auricled Twayblade	S1	Low woods or along riverbanks, often under hemlock or near coniferous swamps or alder thickets	(PRED)	E
Bald Eagle	S2B,S2N	Near large bodies of water, such as bays, rivers, and lakes, that support a healthy population of fish and waterfowl, their primary food source	(PRED)	T
Eastern Small-footed Myotis	S2	Winters in caves and mines deciduous forests during the summer months	(PRED)	PSC
Gray Petaltail	S2	In New York, all known populations are found at rocky gorges and glens with deciduous or mixed forests.	(PRED)	PSC
Hill's Pondweed	S2	Alkaline waters of marshes, ponds, lakes, and slow-moving streams	(PRED)	T
Hooker's Orchid	S1	Dry to moist woodlands and forest, but seems to prefer more forested areas with open understories or successional forest, particularly those dominated by poplar and pine	(PRED)	E
Midland Sedge	S2	A sedge of dry sandy soils of maritime grasslands, oak woods, mowed cemeteries, paths, and fields	(PRED)	E
Mingan Moonwort	S1	Fern of northern white cedar forests and open pastures that are casually grazed where the underlying bedrock is calcareous. Often found with other moonworts	(PRED)	E
Northern Reedgrass	S2	Calcareous wetlands, including fens and wet meadows, and on sandy or cobbly lake, pond, or river shores. It also has been collected from cliffs, krummholz, and alpine meadows in the high peaks of the Adirondacks	(PRED)	T

Reflexed Sedge	S2	Grows in openings and edges of these forests. In addition, it is known from more open environments like rocky summits and ledges. It also occurs along and in paths, woods roads, and adjacent to an abandoned railroad line.	(PRED)	E
Roseroot	S1	Cliffs and all but one near waterfalls. The species appears to prefer shaded and cool sites	(PRED)	E
Southern Twayblade	S1	A plant of peat moss areas including bogs, poor fens, and wet woods	(PRED)	E

*Defined as NYNHP rank S1, S2, S2-3, G1, G2 or G2-3 OR identified as an SGCN

Key to Codes

BBA - Breeding Bird Atlas

(PRED) - Predicted Species

(CONF) - Confirmed Species

Status

E - Endangered Species (New York)

T - Threatened Species (New York)

PSC - Protected, Special Concern Species (New York)

SGCN - Species of Greatest Conservation Need

UNL - Unlisted

VISUAL RESOURCES

The aesthetic quality of State Forests is considered in management activity across the unit. However, some areas have greater potential to preserve or create unique opportunities for public enjoyment. These especially scenic areas are inventoried below. For information on the protection of visual resources, please see SPSFM page 81 at http://www.dec.ny.gov/lands/64567.html.

Chautauqua Gorge is one particular area that many locals are drawn to for its natural beauty. A day use area has been developed off of Hannum Road with pavilions, picnic tables and a walking trail. There is also a hiking trail leading to vistas overlooking the gorge. One of the goals is to develop a trail to the bottom of the Gorge for fishing and nature appreciation. The end of Hannum road is the beginning of the Fred J. Cusimano Westside Overland Trail.

Each of the state forests has its own appeal. The other 13 state forests will not see this level of development.

HISTORIC AND CULTURAL RESOURCES

History of the Unit

In the early days of settlement, Chautauqua County was covered with the finest timber. A few places had been cleared by the Indians for planting, but most of the land was virgin forest. As the settlers were interested in farming, the forest was an obstacle to be removed. The softwood trees were sawed into lumber and taken to market by floating it in rafts down the Allegheny River. In Chautauqua County, log rafts were not as common as lumber rafts. The rafts were formed by the logs being sawn into boards which were formed into a raft. On top of the raft were usually great stacks of shingles, cords of hemlock bark and shanties for the crew. This lumber trade continued until the forests were nearly gone, about 1870. The hardwood trees were usually piled and burned as they would not float. The ashes from these trees yielded valuable chemicals which were sold for cash to pay taxes. Among these were potash and saleratus ("black salts").

Furniture manufacturing was at one time a major industry in Jamestown and various other county locations. Historians report the first furniture manufacturing concern began in 1811. The need to import hardwood lumber became necessary later in the 1800s as the surrounding hillsides were cut over and railroads provided the needed transportation. Jamestown had more workers in the wood furniture industry in the 1870s, than any other industry. In 1900, there were 15 factories employing from 10 to 225 people doing much of the hand work. In 1911, Jamestown was second to Grand Rapids in wood furniture production. During the depression the area became specialized in hardwood furniture with an abundant supply and the development of practices and techniques that were refined and continued.

As with most of the reforestation areas early farming efforts were met with limited success. As the less fertile soil proved unproductive, farms were abandoned and settlement was attempted elsewhere. Once the land was abandoned, succession began 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 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." This broad program is presently authorized under Article 9, Title 5 of the Environmental Conservation Law.

In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. Then, in 1933 the Civilian Conservation Corps (CCC) was begun. Thousands of young men were assigned to plant millions of trees on the newly acquired State lands. 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 State lands. Plans for further planting, construction, facility maintenance and similar tasks had to be curtailed. However, through postwar funding, conservation projects again received needed attention.

The Park and Recreation Land Acquisition Bond Act of 1960 and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of State 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 over 780,000 acres of State Forest land throughout the State. The use of these lands for a wide variety of purposes such as timber production, hiking, skiing, fishing, trapping and hunting is of tremendous importance both economically and to the health and well-being of the people of the State.

Inventory of Resources

The term cultural resource encompasses a number of categories of human created assets including structures, archaeological sites and related artifacts. It also may denote areas of significant importance to local and/or tribal communities. For more information on protection of historic and cultural resources, please see SPSFM page 139 at http://www.dec.ny.gov/lands/64567.html. Examples of cultural resources would be:

- House and Barn Foundations
- Wells
- Waterholes developed for forest protection

Archaeological Site Protection

The known archaeological sites located within this land unit as well as additional unrecorded sites that may exist on the property are protected by the provisions of the New York State Historic Preservation Act (SHPA - Article 14 PRHPL), Article 9 of Environmental Conservation Law and Section 233 of Education Law. No actions that would impact these resources are proposed in this Unit Management Plan. Should

any such actions be proposed in the future they will be reviewed in accordance with SHPA. 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.

Archaeological Research

The archaeological sites located on this land unit as well as additional unrecorded sites that may exist on the property will be made available for appropriate research. All future archaeological research to be conducted on the property will be accomplished under the auspices of all appropriate permits. Research permits will be issued only after consultation with the New York State Museum and the Office of Parks, Recreation and Historic Preservation. Extensive excavations are not contemplated as part of any research program in order to assure that the sites are available to future researchers who are likely to have more advanced tools and techniques as well as different research questions.

REAL PROPERTY

DEC's Bureau of Real Property GIS system contains maps and some deeds for State Forest properties. Original deeds were also consulted to complete the information below.

Boundary Lines

Table I.G. – Status of Boundary Lines

Facility Name	Length of Boundary (mi.)	Length Needing Maintenance	Length Needing Survey
Boutwell Hill, Cha 1	16.9	16.9	0
North Harmony, Cha 2	22.3	19.1	19.1
Mount Pleasant, Cha 3	12.6	12.6	0
Panama, Cha 4	8	8	8
Chautauqua Gorge, Cha 5	5.6	4.7	4.7
Stockton, Cha 6	8.8	8.8	2.6
Boutwell Hill, Cha 7	8.9	0.0	0.0
Brokenstraw, Cha 8	9.4	9.3	9.3
Harris Hill, Cha 9	11.2	0.0	0.0
Hatch Creek, Cha 10	9.6	7.8	7.8
Whalen Memorial, Cha 11	9.4	9.4	0.0
Harris Hill, Cha 12	10.7	0	6.7
Hill Higher, Cha 13	6.7	6.7	0.0
Wellman, Cha 14	4.6	4.6	4.6

For more information on boundary line maintenance, please see SPSFM page 153 at http://www.dec.ny.gov/lands/64567.html.

Land Acquisition

Acquisition of property from willing sellers on the landscape surrounding the unit may be considered in the following priority areas:

- In-holdings and adjoining properties that would reduce management costs and benefit resource protection and public access goals.
- The mineral estate wherever it is split from a State Forest tract.
- Properties within identified matrix forest blocks and connectivity corridors.
- Forested lands in underserved areas of the state.
- Forested lands in areas that are in need of watershed protection.

For more information on land acquisition, please see SPSFM page 147 at http://www.dec.ny.gov/lands/64567.html.

INFRASTRUCTURE

State Forests are managed with a minimal amount of improvements to accommodate rustic, forest based recreational opportunities while providing for resource protection; public health and safety; and access for individuals of all ability levels. For more information on infrastructure policies, please see SPSFM page 157 at http://www.dec.ny.gov/lands/64567.html.

INFRASTRUCTURE

Roads and Trails

DEC's GIS data contains an inventory of public forest access roads, haul roads and multiple-use-trails on the unit, including a representation of the allowable uses along each road or trail segment. Table I.J. contains a summary of roads, trails and related infrastructure on the unit.

ADDITIONAL INFORMATION

State Lands Interactive Mapper (SLIM) – An interactive online mapper can be used to create custom maps of recreational trails on this Unit to help people plan outdoor activities. Located at DEC's Mapping Gateway: http://www.dec.ny.gov/pubs/212.html

Google Earth Virtual Globe Data - Some of DEC's map data, including accessible recreation destinations, boat launches, lands coverage, roads and trails on this Unit can be viewed in Google Maps or Google Earth. (Also located at DEC's Mapping Gateway)

Table I.J. – Existing Access and Parking (see Figure 3 for maps)

Category	Total Amount	Needing Improvement
Public Forest Access Roads	12.1 mi.	8 mi.
Haul Roads	29.1 mi.	27 mi.
Trails	57.2 mi.	30 mi.
Stream Crossings		
Bridges	0	0
Culverts	161	40
Related Infrastructure		
Parking Areas / Trailheads	14	3
Gates / Barriers	30	3

Use and Demand on Roads, Haul Roads and Parking Areas

Chautauqua's Access roads are in varying states of repair but are all passable. One major issue is that the roads tend to be too narrow especially where culverts are used. In some areas the forest access roads have a propensity to be used like town roads. The Access roads are open to public access and are generally utilized by hunters, hikers and other recreationalists.

Many of the haul roads are off limits to public vehicle traffic. Most of these roads are maintained by gas well companies and are not suitable for public traffic. Some of these roads have been selected for permitted access for ATV or 4x4 use under the Motorized Access Program for People with Disabilities (MAPPWD).

There are 14 parking areas on the unit. Most of these are along the County overland trail system. The parking areas are used by hikers, hunters, horse riders, snowmobilers, mountain bikers and bird watchers. At this time some of the parking areas need to be reworked to handle the increased use of

horse riders and snowmobilers who have to trailer their horses and snowmobiles. Many of the parking lots were built with hikers in mind and occupy a minimal space designated for parking.

The demand on the forest roads and trails is increasing.

Use and demand on multiple use trails is discussed under Recreation.

- Multiple use trails are prone to user conflicts due to varying desired experiences. One example is horse riders using the same trail as mountain bike riders. A horse can be spooked when approached by a silent bicycle.
- Some of the parking lots on State land will have to be modified to accommodate the size of horse trailers

Signs / Kiosks

There is only one kiosk on all of the Chautauqua Management Unit located at Chautauqua Gorge Day Use Area. Each of the other heavy use areas and roads utilize signs on trees. In the near future, Boutwell Hill State Forest and North Harmony State Forest would be the most probable destinations for new kiosks. The use in these areas is increasing rapidly with the development of equestrian trails along with the existing infrastructure, including, County Overland trail system and the existing snowmobile trails. There are 3 Parking lots on Boutwell Hill at least 2 of these parking lots could use a kiosk. With demand growing on multiple use trails kiosks will contain signage to inform users and mitigate user conflict.

Boating and Fishing Facilities

The Chautauqua unit does not provide any opportunity for boating recreation but there is some limited fishing.

Designated Campsites and Lean-tos

There are designated campsites throughout the Chautauqua State Forests located within 150 feet of roads, trails and water. They are marked with a small, circular tent sign.

- **Chautauqua Gorge State Forest** has 8 designated campsites and a day use area at the end of Hannum Road. These sites have been used for many years and attract residents and out of state visitors. These sites are in high demand throughout the summer.
- **North Harmony State Forest** has a designated camping area located at Jasper Park with 4 sites. This site is a former day use area and does not provide a rustic camping experience but gives 4 easy access sites. The sites are being upgraded to include parking for horse trailers by the sites. These sites are in increasing demand along with the parking area for recreation activities.
- **North Harmony State Forest** has a designated camping area at Wiltsie Marsh with 7 sites. These sites have been used for many years and are in high demand throughout the summer. These sites provide a camping experience with 2 manmade ponds for fishing and a 2,500 acre State forest for hours of hiking. In the past, the gas well road has provided access to the sites but due to the degradation of the road vehicle access may be cut off at times. A parking area at the entrance is planned.

- While each of the state forests has designated camping sites, these sites can be closed to camping at times either because of a timber harvest or erosion issues. Once they are cleaned up and safe they will be reopened for camping. The camping sites are listed on individual websites for that particular state forest. Sites are continuously being developed, monitored and changed throughout the Unit so be sure to check ahead of time.

- New York State does not have any lean-tos on the Chautauqua Unit but there are 3 areas with lean-tos along the county overland trail system. These are maintained by Chautauqua County and are located are on County owned land.

Operations Facilities

There is one Operations facility on state land in Chautauqua County located in the Town of Harmony in Panama State Forest. This is a limited services facility and does not offer public services at this time.

Dams

Beavers routinely plug control boxes on three dams located on the unit, preventing excess water from flowing out of the dams. As a result, Goshen Road Wildlife Dam #1 and #2, located on Brokenstraw State Forest, pose a threat to a heavily used forest road downstream. Both dams are above the level of the road. The culvert pipes installed when the dams were built are rotting and collapsing, increasing the likelihood of dam failure. Lowering the dams would still allow for wildlife to utilize the wetlands while simultaneous protecting the forest road by decreasing the amount of water to a manageable level.

Wildlife Pond #1 is located on Boutwell Hill State Forest. This dam is in poor condition like the two Brokenstraw dams. Lowering the dam will decrease the potential for damage to the town road downstream of the dam. Another option is to install a 4' diameter culvert at the road to prevent beavers from plugging it. This situation is complicated by the East Side Overland Trail that crosses over the dike. This trail will either have to be redirected or bridged over low spots if the dike it to be modified. All options will be analyzed before a final decision is made.

Non-typical Uses

Off-Highway and All-Terrain Vehicle Use

For a comprehensive discussion of DEC's policy regarding ATV use on State Forests, please refer to page 213 of the SPSFM at www.dec.ny.gov/lands/64567.html.

If an ATV trail system was set up in the county and needed to pass through a state forest there are some potential areas that could act as connector trails. Most likely these trails would utilize forest access roads and haul roads on the Chautauqua Management Unit. There would be work required to upgrade the road surface and safety signage. These roads will not be primary ATV routes but serve as maintained connectors.

FORMAL AND INFORMAL PARTNERSHIPS AND AGREEMENTS

Conservation and stewardship partnerships are increasingly important, especially for public land management agencies. Considering the fact that resources will always be limited, collaboration across

political, social, organizational and professional boundaries is necessary for long-term success and sustainability. Encouraging the development of cooperative and collaborative relationships has been done through DEC's Adopt-A- Natural Resource Program (AANR). For more information on these and other partnerships, please see SPSFM page 181 at http://www.dec.ny.gov/lands/64567.html.

There has been a long running Adopt –A- Natural Resource Agreement with Chautauqua County for the maintenance of the Earl Cardot Eastside Overland Trail and the Fred J. Cusimano Westside Overland Trail. Our relationship with Chautauqua County will continue with the use of yearly permits. The Friends of Chautauqua volunteer group is stepping in to assist Chautauqua County with general trail maintenance through an Adopt –A- Natural Resource Agreement.

The Chautauqua County Snowmobile Federation is made up of 5 Chautauqua County Snowmobile Clubs. For 35 years the Snowmobile clubs and now the federation have been entered into Adopt –A- Natural Resource Agreements with New York State to maintain the miles of snowmobile trails on state land.

These are only a couple of examples of the groups that have adopted portions of state land to maintain trails for all users.

RECREATION

Recreation is a major component of planning for the sustainable use of State Forests on this unit. DEC accommodates diverse pursuits such as snowmobiling, horseback riding, hunting, trapping, fishing, picnicking, camping, cross-country skiing, snowshoeing, bird watching, geocaching, mountain biking and hiking. Outdoor recreation opportunities are an important factor in quality of life. We often learn to appreciate and understand nature by participating in these activities. However, repeated use of the land for recreational purposes can have significant impacts. For further discussion of recreational issues and policies, please see SPSFM page 187 at http://www.dec.ny.gov/lands/64567.html. The following section includes an inventory of recreational opportunities available on this unit as well as a description of use and demand for each activity. Recreational maps and geographic data are available at DEC's Mapping Gateway http://www.dec.ny.gov/pubs/212.html in Google format or in the State Lands Interactive Mapper.

Rules and Regulations on State Lands

New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York (NYCRR) part 190.8 lists the general rules of state lands. Refer to http://www.dec.ny.gov/regs/4081.html for Part 190.0 to 190.10. Some highlights referring to the general rules on state lands follow:

> **e. Any tent or other camping structure left unoccupied for more than 48 hours may be taken down or removed by the department.**
>
> **g. No person shall deface, remove, destroy or otherwise injure in any manner whatsoever any tree, flower, shrub, fern, fungi or other plant organisms, moss or other plant, rock, soil, fossil or mineral or object of archaeological or paleontological interest found or growing on State land, except for personal consumption or under permit from the Commissioner of**

Environmental Conservation and the Commissioner of Education, pursuant to section 233 of the Education Law

m. Use of motor vehicles on State land under the jurisdiction of the Department of Environmental Conservation outside the forest preserve is prohibited, except where specifically permitted by posted notice or by permit issued by the department. Use of motor vehicles within the forest preserve is governed by Part 196 of this Chapter.

q. Unless accompanied by a parent or guardian, no person under 21 years of age shall possess alcoholic beverages. Persons age 21 or over who possess alcoholic beverages must produce adequate identification and proof of age upon demand of any peace or police officer.

x. On State lands, no person shall erect, construct, occupy or maintain any structure that is affixed to a tree by nails, screws or other means that injure or damage the tree except as otherwise authorized by the department.

y. No person shall erect, construct, maintain, occupy or use any tree stand that is used, operated, accessed or reached by methods or means which injure or damage a tree on State lands, and no person shall gain access to any structure in a tree on State lands by means that injure or damage the tree.

Wildlife-related Recreation

USE	TREND
Camping	Stable
Cross Country Skiing	Stable
Fishing	Stable
Hiking	Stable
Horseback Riding	Increased
Hunting	Stable
Illegal ATV Use	Stable
Mountain Biking	Increased
Nature Observation	Stable
Snowmobiling	Increased
Snowshoeing	Stable
Trapping	Stable

Hunting

Hunting is allowed and encouraged at each of the state forests. Hunting pressure is high on opening days but tends to decline in days following.

Access for hunters varies on these properties. Some of the state forests have parking lots for the public and others have pull off areas. Over the next 10 years areas will be reviewed to improve the parking

situation for those recreating on state lands. Before shooting please be sure of your surroundings and be mindful of nearby houses.

Fishing

Fishing opportunities are limited within the management unit. Ponds resulting from man-made wildlife dams have been utilized for fishing since bullhead, yellow perch, bluegill and largemouth bass have been introduced. The ponds at Boutwell Hill State Forest and North Harmony State Forest support small populations of fish.

Within Chautauqua Gorge State Forest, fishing opportunities exist in Chautauqua Creek for resident wild brown trout and for steelhead (rainbow trout), which make seasonal runs up the creek from Lake Erie. Chautauqua Creek borders the northern portion of the Chautauqua Gorge State Forest for about one mile.

The demand for fishing in these areas is moderate but stable.

Trapping

New York State is one of the nation's top producers of wild furs for the commercial fur trade. Trapping is a popular activity in Chautauqua County. Trapping provides important benefits to New Yorkers including: the control of nuisance wildlife damage, economic benefits to trappers and people involved in the fur industry, and recreation to trappers.

The 14 species of furbearing animals in New York are abundant and their populations are secure. DEC regulates trapping seasons to ensure the continued stability of New York's furbearer populations.
The following furbearers are common in Chautauqua County: raccoon, red fox, gray fox, coyote, skunk, opossum, weasel, beaver, muskrat and mink. There have been several sightings of fisher and bobcat in the county as well. Currently, there is no trapping for these species, but if the populations reach a secure level, the department will consider a season.

Demand for trapping is stable.

Viewing Natural Resources

The Chautauqua Unit is an excellent area for the viewing of natural resources. There are many natural elements to view and photograph. The forest stands are made up of conifer and deciduous trees with smaller areas of field and early successional habitat. The variation of elevation and tree composition create excellent habitat for bird and wildlife viewing.

The demand is stable.

Camping

As listed under designated camping areas there are many opportunities to camp in popular, high-use areas. There are also rustic opportunities to camp within the unit. If choosing to camp in a non-designated a site you must be 150 feet away from any road, water or trails. The following rules must be followed for all camping on the unit

a. Sites must be kept in a neat, clean and sanitary condition. Garbage must be removed by the user.

b. Temporary camping in one location for four nights or more or for group camping of more than 10 campers is prohibited except under permit. Contact Forest Ranger David Pachan 716-771-7180 for a permit.

c. No temporary camping permit will be issued to any person for a period in excess of 14 consecutive nights, except during the big game hunting season. No temporary camping permit may be renewed, or a new permit issued, to the same person for the same location in the same calendar year.

Trail-based Recreation

Table I.L. – Multiple Use Trails*, **

(see Figure 3 for maps)

Use	Length (mi.)
Foot Trail Use	30.8
Cross Country Skiing	68.3
Equestrian	10.8
Mountain Biking	30.3
Snowmobile	33.7

* Length available for each use includes use on PFARs; does not include municipal roads
** Trail uses overlap

Demand for the trails is stable with alternate use requests on the rise.

Foot Trail Use
On Chautauqua Gorge there is a quarter mile, wheelchair accessible loop trail behind the Hannum Road day use area. The trail runs along the gorge and has two overlooks into the gorge. The site contains accessible parking, picnic shelters, fire rings, privy and interpretive kiosk.

There are 2 trails that were developed by Chautauqua County in the 70's that traverse the diverse terrain of Chautauqua County. New York State Reforestation Areas and County Land make up a large proportion of these trails with private landowners cooperating to connect these landholdings.

On the west side of the county the Fred J. Cusimano West Side Overland trail travels from Chautauqua Gorge State Forest south to Brokenstraw State Forest. This trail is 24 miles long and travels over multiple private land ownerships, County Forest and 6 State Reforestation Areas. The County has 2 Properties with lean-tos along this trail. There are 5 Parking lots on the Chautauqua Management Unit along this trail. One parking lot is on Chautauqua Gorge at the end of Hannum Road. There are two lots on Mount Pleasant State Forest; one off route 430 and one at the intersection of Titus Rd. and Mount Pleasant Rd. There is one parking area on North Harmony off route 474. The southernmost parking lot is on Brokenstraw State Forest off Townline Road.

The Earl Cardot East Side Overland Trail starts at Canadaway Creek Wildlife Management Area and travels south to Harris Hill State Forest. This trail is 18.9 Miles long and crosses 2 state Reforestation

Areas, County Forest and multiple Private land ownerships. The County has one property with lean-tos along this trail. There are 4 parking areas on the Chautauqua Management Unit, 3 on Boutwell Hill and 1 on the south end at Harris Hill.

These trail systems allow for hiking, mountain bike riding, snowshoeing and cross country skiing. Portions of the system are shared with snowmobiles. Horses and ATVs are not permitted.

Hiking is an accepted use on or off trails on the management unit. Demand is stable for hiking.

Cross Country Skiing

Cross country skiing is allowed anywhere on the Chautauqua Management Unit. Any snowed in access road, Haul Road or hiking trail can be used as a cross country ski trail. Be aware on snowmobile trails to minimize risk of injury. Most often the overland trail is used for skiing and snowshoeing. Overall demand is moderate.

Equestrian

The growing demand of Equestrian riding has prompted the development of a plan for trail implementation in the Boutwell Hill Area. NYSDEC, Chautauqua County and Lou Eibl Corral have been working on this project together since 2009. The goal of the planning is to develop 40 miles of sustainable trail in the Cherry Creek area through Boutwell Hill State Forest and private properties. In the early development some trails are on forest roads in combination with snowmobile trails. As funding is obtained, trails will be created where they can be sustainable.

Red Barn Equestrian Club has an Adopt-A- Natural Resource Agreement on North Harmony State Forest. The trail system is utilizing the current infrastructure of the snowmobile trail, forest road and town road. Trails are also being developed to connect these existing corridors where it can be done sustainably. This group is developing a parking area on Warner Road in the Jasper Park area of North Harmony State Forest. It will serve the state forest as a parking lot with designated overnight camping areas.

Horse riding is allowed throughout the Chautauqua Management Unit and on approved trails but it can be restricted in some areas. Horse riding is not permitted on the Earl Cardot East Side Overland Trail or the Fred J. Cusimano Westside Overland Trail. All forest roads may be used for riding and driving. When "Trail Closed" signs are posted please be respectful and follow the signs.

The demand for Equestrian trails is increasing in Chautauqua County.

Mountain Biking

Trail Volunteers have developed about 6.6 miles of Mountain biking trail on Harris Hill. The Northern Allegheny Mountain Biking Association currently holds the Agreement for the area. The group is in the process of expanding further north and eventually connecting with County route 50. The next trail is planned on Hatch Creek State forest. The trails have been developed and maintained through private and personal funding.

Mountain Biking is allowed on the Overland Trails.

RECREATION

As with horse riding, mountain bike trail demand is on the rise in Chautauqua County. Trails are sought out for all skill levels. As demand rises, expansion of trails will be reviewed where the overland trail system can be utilized.

Snowmobiling

Over the past 30 years the Chautauqua County Snowmobile clubs have developed and extensive network of trails throughout the County at part of the Statewide Trail System. There are snowmobile trails on 9 of the 14 State Reforestation Areas in Chautauqua County amounting to approximately 37.8 miles on state land.

Snowmobiling is permitted on any snow covered trail on State Forests other than designated ski/snowshoe trails unless the trail is posted as closed for snowmobile use. Demand for snowmobile trails is stable.

Other Recreational Activities

Orienteering

Orienteering is an allowable use of each of the state forests and does not require any permitting. Keep an eye on the websites for each of the state forests as we are improving the availability of the maps regularly. Geocaching is also allowed on state forest land. If you choose to locate a geocache on state land the geocache must be labeled with the owner's name and address and installed in a manner that does not disturb the natural conditions of the site or injure a tree.

Demand for this use has increased with the popularity of geocaching.

Dog Training / Field Trials

Dog training is allowable on state land. Dog training activities that are competitive or involve more than 20 people will require a permit.

Demand is stable for this use.

Target Shooting

As restricted by NYCRR Part 190 – “No person shall possess breakable targets, including but not limited to clay pigeons, on State lands and no person shall target shoot at breakable targets, including but not limited to clay pigeons and glass containers, on State lands. Unless legally engaged in the act of hunting, no person shall discharge firearms on State lands posted or designated as closed to target shooting”.

It is prohibited to shoot from or over any public highway. When shooting, find an area with a safe backstop. Do not use a tree or hang a target from a tree. Know the areas and stay away from trails and the road.

Demand is stable.

Overall Assessment of the Level of Recreational Development

It is important that recreational use is not allowed to incrementally increase to an unsustainable level. DEC must consider the impact on the unit from increased use on other management goals or other

recreational uses. DEC must consider the full range of impacts, including long-term maintenance and the balancing of multiple uses.

The Chautauqua Management Unit has the potential to have user conflict based on a number of factors. The area is realizing expanding user demand on trails for a wide variety of activities. Many of these trails have been developed for snowmobile use but are being used during the summer by other user groups. Snowmobile trails can work well for snowmobiles because they run during times when the trail is frozen and covered in snow. These same trails may not hold up as well to activities such as horse riding or even walking in warmer times of the year. There are many areas where user groups will have to work together to make the trails work or find common ground to limit the overdevelopment of trails.

UNIVERSAL ACCESS

DEC has an essential role in providing universal access to recreational activities that are often rustic and challenging by nature, ensuring that facilities are safe, attractive and sustainable, along with being compatible with resources. For more information on universal access policies, please see SPSFM page 173 at http://www.dec.ny.gov/lands/64567.html.

Motorized Access Permits for People with Disabilities (MAPPWD) allow access to these forest roads:

Facility	NAME	Miles	Vehicle Type	Permitted Program
Boutwell Hill State Forest	NYSRA 1-8, Boulevard	0.78	FWD, ATV	Hunt, Wild
North Harmony State Forest	NYSRA 2-1596/1591	0.41	ATV	Hunt, Wild
North Harmony State Forest	NYSRA 2-1592	0.32	ATV	Hunt, Wild
Mount Pleasant State Forest	NYSRA 3-10	0.13	ATV	Hunt, Wild
Mount Pleasant State Forest	NYSRA 3-7	0.3	ATV	Hunt, Wild
Panama State Forest	Austin Access Road, 4-8	0.3	ATV	Hunt, Wild
Panama State Forest	F. Steves Access Road, 4-3/4/5	0.3	ATV	Hunt, Wild
Panama State Forest	Tanner Access Road, 4-6/7	0.71	ATV	Hunt, Wild
Panama State Forest	Wiltsie Access Road, 4-9/10	0.36	ATV	Hunt, Wild
Stockton State Forest	NYSRA 6-5	0.39	ATV	Hunt, Wild
Harris Hill State Forest	Rigby Forest Road ***Gated**	0.36	ATV	Hunt, Wild
Hill Higher State Forest	Peterson Access Road, 13-1/6	0.47	ATV	Hunt, Wild
Hill Higher State Forest	Swanson Access Road, 13- 4	0.71	FWD, ATV	Hunt, Wild
Hill Higher State Forest	Swanson Access Road, 13- 7	0.22	FWD, ATV	Hunt, Wild
Hill Higher State Forest	Zeitler Access Road, 13-3	0.6	FWD, ATV	Hunt, Wild
Hill Higher State Forest	Zeitler Access Road, 13-8	0.34	FWD, ATV	Hunt, Wild

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. Any new facilities, assets and accessibility improvements to existing facilities or assets proposed in this UMP are identified in the section containing proposed management actions.

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

MINERAL RESOURCES

Oil, Gas and Solution Exploration and Development

Oil and 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. As surface managers, the Division of Lands and Forests will evaluate any concerns as they pertain to new natural gas leases on State Forest lands. Consistent with past practice, prior to any new leases, DEC will hold public meetings to discuss all possible leasing options and environmental impacts. A comprehensive tract assessment will be completed as part of this process. For more information on natural gas and other mineral resource policies, please see SPSFM page 225 at http://www.dec.ny.gov/lands/64567.html.

Existing leases on the unit:

Table I.M. – Current Oil and Gas Leases

Facility Name	Contract #	Acreage	Towns	Lessee
Boutwell Hill Cha 1	R 76666	1,475.0	Cherry Creek	REI

				Steadman
North Harmony, Cha 2	R 76665	2,561.0	N. Harmony/Sherman	Empire
				Steadman
				U.S Energy
Mount Pleasant, Cha 3	R 82745	1,522.8	Chautauqua	Empire
Panama, Cha 4	R 82255	1,224.0	Harmony/Clymer	Stedman
Chautauqua Gorge, Cha 5	R 84211	538.0	Chautauqua	Empire
Stockton, Cha 6	R 84150	977.0	Stockton	Steadman
Brokenstraw, Cha 8	R 81678	951.0	Harmony/Clymer	U.S. Energy
Harris Hill, Cha 9	R 82334	330.78	Gerry/Ellington	Empire
				GFS Energy
Hatch Creek, Cha 10	R 76667	1,283.0	Gerry/Ellington	Columbia
				REI
Whalen Memorial, Cha 11	R 73715	1,325.0	N. Harmony	Empire
				REI
Hill Higher, Cha 13	R 81659	1,156.0	Harmony	Steadman
Wellman, Cha 14	X 194785	447.3	Busti	Senica Resources

U.S. Energy - U S Energy Development Corp.
REI - REI-NY, LLC
Empire - Empire Energy E&P LLC
GFS - GFS Energy, Inc.
Stedman - Stedman Energy, Inc.
Seneca - Seneca Resources Corp.

Table I. N. Active wells on the unit:

API Well Number	Well Name	State Forest	Company Name	Well Type
31013136030000	NYSRA 1-20606-T	Boutwell Hill	Stedman	Gas
31013156920000	NYSRA 1-1	Boutwell Hill	Stedman	Gas
31013162560000	NYSRA 1-2	Boutwell Hill	Stedman	Gas
31013162570000	NYSRA 1-8	Boutwell Hill	Stedman	Gas
31013178370000	NYSRA 1-7 7676	Boutwell Hill	Stedman	Gas
31013182120000	NYSRA 1-10	Boutwell Hill	Stedman	Gas
31013225820000	NYSRA 1-13 7678	Boutwell Hill	REI	Gas
31013180830000	NYSRA 8-1581	Brokenstraw	U.S. Energy	Gas
31013182140000	NYSRA 8-1580	Brokenstraw	U.S. Energy	Gas
31013162280000	NYSRA 5-19	Chautauqua Gorge	Empire	Gas

MINERAL RESOURCES

Table I. N. Active wells on the unit:				
31013167090000	NYSRA 5-18	Chautauqua Gorge	Empire	Gas
31013167100000	NYSRA 5-20	Chautauqua Gorge	Empire	Gas
31013167110000	NYSRA 5-21	Chautauqua Gorge	Empire	Gas
31013167120000	NYSRA 5-22	Chautauqua Gorge	Empire	Gas
31013167130000	NYSRA 5-23	Chautauqua Gorge	Empire	Gas
31013211910000	NYSRA 5-24	Chautauqua Gorge	Empire	Gas
31013218520000	NYSRA 5-25	Chautauqua Gorge	Empire	Gas
31013193010000	NYSRA 9-1 (6392)	Harris Hill	GFS	Gas
31013198990000	NYSRA 9-1	Harris Hill	Empire	Gas
31013199030000	NYSRA 9-3	Harris Hill	Empire	Gas
31013153530000	NYSRA 10-1	Hatch Creek	Empire	Gas
31013153540000	NYSRA 10-2	Hatch Creek	Empire	Gas
31013153550000	NYSRA 10-3	Hatch Creek	Empire	Gas
31013153560000	NYSRA 10-5	Hatch Creek	Empire	Gas
31013153570000	NYSRA 10-6	Hatch Creek	Empire	Gas
31013162170000	NYSRA 10-4	Hatch Creek	Empire	Oil
31013162180000	NYSRA 10-7	Hatch Creek	Empire	Gas
31013162190000	NYSRA 10-10	Hatch Creek	Empire	Gas
31013162960000	NYSRA 10-8	Hatch Creek	Empire	Gas
31013162970000	NYSRA 10-9	Hatch Creek	Empire	Gas
31013201700000	NYSRA 10-11	Hatch Creek	REI	Oil
31013121510000	NYSRA 13-1	Hill Higher	Stedman	Gas
31013122030000	NYSRA 13-2	Hill Higher	Stedman	Gas
31013125890000	NYSRA 13-4	Hill Higher	Stedman	Gas
31013125900000	NYSRA 13-5	Hill Higher	Stedman	Gas
31013125920000	NYSRA 13-7	Hill Higher	Stedman	Gas
31013125930000	NYSRA 13-8	Hill Higher	Stedman	Gas
31013157210000	NYSRA 3-1	Mount Pleasant	Empire	Gas
31013157820000	NYSRA 3-2	Mount Pleasant	Empire	Gas
31013159360000	NYSRA 3-4	Mount Pleasant	Empire	Gas
31013159370000	NYSRA 3-5	Mount Pleasant	Empire	Gas
31013159380000	NYSRA 3-6	Mount Pleasant	Empire	Gas
31013159390000	NYSRA 3-7	Mount Pleasant	Empire	Gas
31013159400000	NYSRA 3-8	Mount Pleasant	Empire	Gas
31013163210000	NYSRA 3-10	Mount Pleasant	Empire	Gas
31013163570000	NYSRA 3-11	Mount Pleasant	Empire	Gas
31013163580000	NYSRA 3-12	Mount Pleasant	Empire	Gas
31013163920000	NYSRA 3-13	Mount Pleasant	Empire	Gas
31013163930000	NYSRA 3-14	Mount Pleasant	Empire	Gas
31013163940000	NYSRA 3-15	Mount Pleasant	Empire	Gas
31013163950000	NYSRA 3-16	Mount Pleasant	Empire	Gas

Table I. N. Active wells on the unit:

31013163960000	NYSRA 3-17	Mount Pleasant	Empire	Gas
31013148800000	NYSRA 2-1289	North Harmony	Empire	Gas
31013155360000	NYSRA 2-1291	North Harmony	Empire	Gas
31013155370000	NYSRA 2-1294	North Harmony	Empire	Gas
31013155380000	NYSRA 2-1296	North Harmony	Empire	Gas
31013155390000	NYSRA 2-1295	North Harmony	Empire	Gas
31013155400000	NYSRA 2-1290	North Harmony	Empire	Gas
31013162220000	NYSRA 2-1510	North Harmony	Empire	Gas
31013162230000	NYSRA 2-1512	North Harmony	Empire	Gas
31013162240000	NYSRA 2-1511	North Harmony	Empire	Gas
31013178900000	NYSRA 2-1587	North Harmony	Empire	Oil
31013179110000	NYSRA 2-1591	North Harmony	Empire	Gas
31013187700000	NYSRA 2-1594	North Harmony	Empire	Gas
31013187710000	NYSRA 2-1593	North Harmony	Empire	Gas
31013187720000	NYSRA 2-1586	North Harmony	Empire	Gas
31013188470000	NYSRA 2-1621	North Harmony	Empire	Gas
31013197520000	NYSRA 2-1602	North Harmony	Empire	Gas
31013235640001	NYSRA 2-1636A	North Harmony	U.S. Energy	Gas
31013235650000	NYSRA 2-1638	North Harmony	U.S. Energy	Gas
31013123320000	NYSRA 4-1	Panama	Stedman	Gas
31013125780000	NYSRA 4-2	Panama	Stedman	Gas
31013125790000	NYSRA 4-3	Panama	Stedman	Gas
31013125800000	NYSRA 4-4	Panama	Stedman	Gas
31013125810000	NYSRA 4-5	Panama	Stedman	Gas
31013125820000	NYSRA 4-6	Panama	Stedman	Gas
31013125830000	NYSRA 4-7	Panama	Stedman	Gas
31013125850000	NYSRA 4-9	Panama	Stedman	Gas
31013125870000	NYSRA 4-11	Panama	Stedman	Gas
31013234200000	NYSRA 4-12	Panama	Stedman	Gas
31013162200000	NYSRA 6-1	Stockton	Stedman	Gas
31013162210000	NYSRA 6-2	Stockton	Stedman	Gas
31013162370000	NYSRA 6-3	Stockton	Stedman	Gas
31013163090000	NYSRA 6-4	Stockton	Stedman	Gas
31013163100000	NYSRA 6-5	Stockton	Stedman	Gas
31013163110000	NYSRA 6-6	Stockton	Stedman	Gas
31013211960000	NYSRA 14-1 7312	Wellman	Seneca	Gas
31013217830000	NYSRA 14-2 7313	Wellman	Seneca	Gas
31013220100000	NYSRA 14-3 7057	Wellman	Seneca	Gas
31013148790000	NYSRA 11-1288	Whalen Memorial	Empire	Gas
31013162250000	NYSRA 11-1513	Whalen Memorial	Empire	Gas
31013162260000	NYSRA 11-1514	Whalen Memorial	Empire	Gas

INFORMATION ON THE CHAUTAUQUA MANAGEMENT UNIT

MINERAL RESOURCES

Table I. N. Active wells on the unit:				
31013178160000	NYSRA 11-1590	Whalen Memorial	Empire	Gas

U.S. Energy - U S Energy Development Corp.
REI - REI-NY, LLC
Empire - Empire Energy E&P LLC
GFS - GFS Energy, Inc.
Stedman - Stedman Energy, Inc.
Seneca - Seneca Resources Corp.

Table I.O. Plugged wells on the unit:				
31013136040000	NYSRA 7-20608-T	Boutwell Hill	Gas	10/12/2005
31013218220000	NYSRA 7-1	Boutwell Hill	Gas	9/25/2003
31013218320000	NYSRA 7-3	Boutwell Hill	Gas	10/7/2003
31013218330000	NYSRA 7-4	Boutwell Hill	Gas	10/3/2003
31013192970000	NYSRA 12-6396	Harris Hill	Gas	3/1/1986
31013192990000	NYSRA 12-6394	Harris Hill	Gas	3/1/1986
31013201270000	NYSRA 10-12	Hatch Creek	Oil	12/20/2000
31013125880000	NYSRA 13-3	Hill Higher	Gas	6/28/1989
31013125910000	NYSRA 13-6	Hill Higher	Gas	7/12/1996
31013125940000	NYSRA 13-9	Hill Higher	Gas	6/22/1993
31013157770000	NYSRA 3-3	Mount Pleasant	Gas	5/14/2008
31013163910000	NYSRA 3-9	Mount Pleasant	Gas	10/21/2008
31013178890000	NYSRA 2-20	North Harmony	Gas	8/10/1994
31013179100000	NYSRA 2-1596	North Harmony	Oil	9/27/2001
31013187690000	NYSRA 2-1619	North Harmony	Gas	8/12/1994
31013188460000	NYSRA 2-1620	North Harmony	Gas	7/8/1993
31013197500000	NYSRA 2-1623	North Harmony	Dry	7/12/1993
31013197510000	NYSRA 2-1624	North Harmony	Dry	7/6/1993
31013222920000	NYSRA 2-1626	North Harmony	Dry	7/19/1993
31013222940000	NYSRA 2-1625	North Harmony	Dry	7/15/1993
31013125860000	NYSRA 4-10	Panama	Gas	7/11/1996
31013222930000	NYSRA 11-1627	Whalen Memorial	Dry	11/29/1993

Table I.P Inactive wells on the unit:				
API Well Number	**Well Name**	**State Forest**	**Company Name**	**Well Type**
31013225900000	NYSRA 1-18	Boutwell Hill	REI-NY, LLC	Oil
31013136050000	NYSRA 10-20609-T	Hatch Creek	EnerVest Operating, LLC	Gas
31013125840000	NYSRA 4-8	Panama	Stedman Energy, Inc.	Gas

Mining

Gravel and Hard Rock Mining

Gravel and hard rock resources in the areas surrounding and including the Chautauqua Unit Management Plan are limited. Currently there are no pits on the Unit. There are no current mining contracts, permits, or operations on any areas in this unit management plan. Under Article 7 of the New York Consolidated Laws / Public Lands, any citizen of the United States may apply for permission to explore and/or extract any mineral on State lands. However, current department policy is to decline any commercial mining application(s) pertaining to any lands covered by this plan. The Department may occasionally mine small quantities of shale rock or gravel for use on state facilities such as access roads, parking lots or recreational trails. Should those actions be anticipated there will be an evaluation regarding the need for a permit. Further information may be found at the Department's website or with the Division of Mineral Resources.

Pipelines

Pipelines may be constructed on State Forest lands only if a portion of the mineral resources to be transported was extracted from State lands. Pipeline and road development must be in compliance with State Forest tract assessments, the Strategic Plan for State Forest Management, and the Generic Environmental Impact Statement and Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program.

Pipelines will be located immediately adjacent to Public Forest Access Roads. The location of the roads and pipelines will be in compliance with tract assessments. Pipelines may be located in stands managed for closed canopy conditions only along pre-existing roads that intersect such area. Additional surface disturbance associated with such construction will be considered only in areas other than stands which are managed for relatively unbroken canopy conditions. Areas managed for unbroken canopy conditions may be referred to using various terms such as "uneven-aged," "uneven-aged variable retention," "all aged," "high canopy," "closed canopy" or others.

Pipeline development on State land will not be permitted if the Department determines that it creates a significant long-term conflict with any management activities or public use of the State Forests, or with other management objectives in this plan. All pipelines will be gated to restrict motorized access. If necessary, hardened crossings or bridges will be installed, to allow heavy equipment access across pipelines. These requirements will be satisfied by the Lessee.

Exceptions to the above guidance must be approved by the Division of Lands and Forests, in consultation with the Division of Mineral Resources.

SUPPORTING LOCAL COMMUNITIES

Tourism

State Forests can be an economic asset to the local communities that surround them. It is estimated that more than three out of every four Americans participate in active outdoor recreation of some sort each year. When they do, they spend money, generate jobs, and support local communities. For more information, please see SPSFM page 245 at http://www.dec.ny.gov/lands/64567.html.

Taxes Paid

The New York State Real Property Tax Law provides that all reforestation areas are subject to taxation for school and town purposes. Some reforestation areas are also subject to taxation for county purposes. Most unique areas and multiple use areas are exempt from taxation. All of these lands are assessed as if privately owned.

Detailed tax information can be obtained by contacting the Chautauqua County, NY Office of Real Property Tax. Information can also be found on their website located at: http://www.co.chautauqua.ny.us/departments/tax/Pages/default.aspx . Click on Property tax lookup on the right hand side. The following taxes are projected for State lands in this unit for the 2012 tax year:

Table I. R. Taxes Paid on State Forest Land

Town	Local Taxes	School Taxes
Charlotte	20,541.75	41,271.75
Chautauqua	3,332.59	45,717.87
Cherry Creek	13,895.03	26,535.96
Clymer	2,033.62	5,336.86
Ellington	7,892.87	11,202.94
Gerry	21,629.57	66,933.76
Harmony	21,805.12	89,423.01
North Harmony	13,891.97	64,962.24
Sherman	4,499.25	13,558.74
Stockton	13,457.29	25,914.81

FOREST PRODUCTS

Timber

Timber management provides a renewable supply of sustainably managed forest products and can also enhance biodiversity. The products harvested may include furniture quality hardwoods, softwoods for log cabins, fiber for paper making, firewood, animal bedding, wood pellets, biofuel, and chips for electricity production. For more information, please see SPSFM page 251 at http://www.dec.ny.gov/lands/64567.html.

Information on upcoming timber expected to be produced from timber management activities on the unit is contained in the land management action schedules in Part III of this plan.

The demand for forest products can vary over time. The reasons are generally economic in nature. The demand for sawtimber decreases in a poor economy but the demand for firewood increases. In each state of the economy there is potential product available for the demand. Following is a list of forest products and trends that State foresters have observed over time.

PRODUCT	TREND
Firewood	Increased
Softwood Sawtimber	Stable
Hardwood Sawtimber	stable
Hardwood Pulpwood	Decreasing
Softwood Pulpwood	Decreasing
Mushrooms	Stable
Maple Syrup	Stable
Fence Posts	Stable

The use trends for these products are cyclical. Chautauqua County has been experiencing decline in sawmills. Much of the timber produced in this county is sent to Pennsylvania and neighboring counties for processing. Despite the limitations of the firewood restriction firewood demand has increased due to the increased fuel prices.

With the economic downturn Chautauqua County has lost loggers to more stable industries. It is likely that this too will cycle with the demand for timber products and the availability of quality timber.

FOREST HEALTH

Forest health is pursued with the goal of maintaining biodiversity. Any agent that decreases biodiversity can have a deleterious effect on the forest as a whole and its ability to withstand stress. Forest health in general should favor the retention of native species and natural communities or species that can thrive in site conditions without interrupting biodiversity. For more information on forest health, please see SPSFM page 277 at http://www.dec.ny.gov/lands/64567.html.

Invasive Species

As global trade and travel have increased, so have the introduction of non-native species. While many of these non-native species do not have adverse effects on the areas in which they are introduced, some become invasive in their new ranges, disrupting ecosystem function, reducing biodiversity and degrading natural areas. Invasive species have been identified as one of the greatest threats to biodiversity, second only to habitat loss. Invasive species can damage native habitats by altering hydrology, fire frequency, soil fertility and other ecosystem processes.

Table I.S. – Invasive Species, Pests and Pathogens

Plants	Status

Table I.S. – Invasive Species, Pests and Pathogens	
Phragmites *(Phragmites australis)*	Phragmites is located on gas well sites throughout the county. These sites are noted but are not planned to be actively removed at this time. If they become a problem or a good means of removal becomes available these will be re-evaluated and treated.
Japanese Knot Weed (*Polygonum cuspidatum*)	There is scattered Japanese knotweed through the management unit but it is most notable on Brokenstraw State Forest along Town Line road. At this time, these are not interfering with forest growth so nothing is being done. Once the adjoining area is harvested a treatment will be applied to avoid encroachment.
Japanese Bar Berry (*Berberis thunbergii*)	There are sporadic patches on state land. When we are working in those areas they will be managed.
Multi Flora Rose (*Rosa multiflora)*	This is present on most state forests but not in all stands. This has not been a major problem to this point but is always being evaluated.
Amur Honey Suckle (Lonicera maackii)	Honey suckle is scattered through the state forests but is a specific problem on Chautauqua 5 south west of the day use area.
Garlic Mustard (*Alliaria petiolata)*	This has been identified on gas well roads but has not become a problem in the forest yet.
Autumn Olive (*Elaeagnus umbellata)*	Patches of Autumn Olive have been identified on state land. When these areas are worked in they will be addressed.
Insects	**Status**
Hemlock Woolly Adelgid (*Adelges tsugae*)	Presently, the adelgid has not been detected in Chautauqua County. This situation will be monitored.
Emerald Ash Borer (*Agrilus planipennis)*	This was found in 2009 about 8 miles from Harris Hill State Forest in the Randolph area, but has not been detected in the state forest.
Asian Longhorned beetle (*Anoplophora glabripennis)*	This has been found in New York City area, but not in Western New York. This situation will be monitored.
Sirex Woodwasp (*Sirex noctilio)*	This has been detected in region 9, but has not become a major problem with the timber.
Beech Scale (*Cryptococcus fagisuga)*	The beech scale insect attacks the bark creating a wound opening it to infection of the fungi *Nectria coccinea* var. *faginata. This is present in the County and has affected many American beech trees*
Diseases	**Status**
Beach Bark Disease *(Nectria coccinea* var. *faginata)*	This is currently abundant on State Forests. When a forest stand is managed, invasive or diseased beech is generally addressed so the beech will not overwhelm more desirable regeneration. Approximately one percent of the trees will never get Beech Bark Disease so not all beech is targeted for treatment and removal.
Dutch Elm Disease (ascomycete microfungi)	Elm can still be found on State Forests. It is scattered now and in various stages of health.

Table I.S. – Invasive Species, Pests and Pathogens	
Chestnut Blight *(Cryphonectria parasitica)*	American chestnut sprouts may be found on State land but mature chestnut is very rare.

The State lands within Chautauqua County have potential invasive threats from insects like the Emerald Ash Borer, Sirex Wood Wasp, Hemlock woolly Adelgid and Asian Long Horned Beetle. Unfortunately, there is not much the land manager can do to prevent the spread of these foreign insects. Emerald Ash Borer will factor into the silvicultural prescriptions when treating stands facing the loss of ash. The main focus in the period of this plan will be to maximize use of merchantable ash trees in harvest areas. If the trees are too small to be merchantable, it would be difficult to remove them to slow the spread of the insect.

There are existing exotic invasive plant species in the understories of the forests in Chautauqua County. These infestations are in the process of being recorded using GPS units to mark their locations. These areas have not been actively treated in the past. In the future, these areas will be treated in conjunction with forest product sales within the stand. With the updated information gathering stands will be evaluated to see the level of effect the invasive species are causing with the regeneration of desirable species.

There are many invasive issues scattered through the management unit. Chautauqua Gorge and Mount Pleasant in particular are plagued by Honeysuckle. As timber harvests are planned the treatment must be part of the prescription to adequately regenerate the stands. The bushes have overtaken the road sides and are creeping into the surrounding stand. On Brokenstraw there is a large patch of Japanese Knotweed along Weeks Road/Townline Road. This situation will have to be carefully assessed due to a nearby stream that could be affected by a treatment.

In each case of invasive species, all courses of action will be reviewed, from application of herbicides, to use of biological controls, mechanical control or no treatment.

Managing Deer Impacts

There is limited ability to manage deer impacts using silvicultural systems. The most effective method of keeping deer impacts in line with management objectives is to monitor impacts while working with the Division of Fish, Wildlife and Marine Resources to observe and manage the herd. On properties where deer are suspected of impacting values and objectives associated with biodiversity and timber management, such impacts must be inventoried and assessed. For more information on managing deer impacts, please see SPSFM page 291 at http://www.dec.ny.gov/lands/64567.html.

SUMMARY OF ECO-REGION ASSESSMENTS

To practice ecosystem management, foresters, must assess the natural landscape in and around the management unit. State Forest managers utilized The Nature Conservancy Eco-Region Assessments to

evaluate the landscape in and around this management unit. The Chautauqua Unit Management Plan falls within the Western Allegany Plateau.

ECO-REGION SUMMARY

The Western Allegheny Plateau (WAP) Ecoregion has its most northerly tip beginning in the southwestern corner of New York and runs south through western Pennsylvania, West Virginia and eastern Ohio. It includes a small portion of its southern tip just entering northeastern Kentucky. The WAP ecoregion consists mainly of the upper Allegheny River Basin, or the watershed of the upper reaches of the Allegheny River within both New York and Pennsylvania. The New York portion of the WAP includes approximately 743,325 acres and has an approximate population of 110,000 residents (2000 Census). This portion of the WAP supports the most diverse fish assemblages in New York State and also harbors a variety of mussels, including several rare species like the endangered clubshell mussel and the wavy-rayed lampmussel. This northwestern portion of the Allegheny River Basin also contains portions of the only unglaciated (Wisconsinan) section of New York, which is reflected in the rich plant and amphibian life found here. The natural resources of the WAP are generally in good to excellent condition. Although agricultural pursuits, residential uses, and light industrial development pressures have long since removed forests from the fertile flat valleys, the region remains ecologically sound.

ECO-REGION ASSESSMENT

Table II.A. Land Use and Land Cover for the Landscape Surrounding The Chautauqua Management Unit

Land Use and Land Cover	Approximate Acreage	Percent of Landscape
Deciduous Forest	335.375	45.1%
Mixed Forest	18,689	2.5%
Conifer Forest	29,922	4.0%
Shrub and Brush Range Land	24,848	3.3%
Grass Land / Herbaceous	15,918	2.1%
Pasture / Hay	121,349	16.3%
Crop Land	102,658	13.8%
Open Water	15,608	2.1%
Forested Wetland	35,768	4.8%
Barren Land	495	0.1%
Non-forested Wetlands	3,730	.5%
Developed High Intensity	378	0.1%
Developed Medium Intensity	2,091	0.3%

Table II.A. Land Use and Land Cover for the Landscape Surrounding The Chautauqua Management Unit		
Land Use and Land Cover	**Approximate Acreage**	**Percent of Landscape**
Developed Low Intensity	6,986	0.9%
Developed Open Space	29,970	4.0%
Total	**743,785**	**100**

MANAGEMENT OBJECTIVES AND ACTIONS

OBJECTIVES

Ecosystem Management

Table III.A. –Ecosystem Management Objectives and Actions	
Objective	**Actions**
Statewide Management	
SM I – Implement SPSFM in UMPs	Land Management objectives are based on the Strategic Plan for State Forest Management.
Active Forest Management	
AFM I – Apply sound silvicultural practices	Each treatment executed within the Management unit is based on sound silvicultural practices. Steps are taken when planning timber harvests. Trees are marked based on a prescription that is developed using the age, size, density and quality of the stand. Inventory is also evaluated using the U. S. Forest Service's Silvah program. The prescription is compared to the field notes and the marking may be adjusted for variations on the site.
AFM II – Use harvesting plans to enhance diversity of species, habitats & structure	Each planned harvest has a prescription written for the sale area. It is also processed through the Silvah program to get a second opinion on a prescription. This can affect the marking of the stand.
AFM III – Fill ecoregional gaps to maintain and enhance landscape-level biodiversity	The ecoregion will continue to be evaluated for existing and growing gaps that have historically occurred in the region. Where habitat can be created it will be evaluated.
AFM IV – Enhance matrix forest blocks and connectivity corridors where applicable	Forest will continue to be converted to its natural and diverse state through the use of timber sales. Special management zones will be followed to protect streams, wetlands and vernal pools.
AFM V – Practice forest and tree retention on stands managed for timber	Each stand to be harvested will have retention trees left based on the State tree retention guidelines.

Resource Protection

Table III.B. –Resource Protection Objectives and Actions	
Objective	**Actions**

Table III.B. –Resource Protection Objectives and Actions	
Objective	**Actions**
Soil and Water Protection	
SW I – Prevent erosion, compaction and nutrient depletion	Roads, trails and landings are being evaluated to improve drainage reducing erosion and nutrient depletion.
SW II – Identify and map SMZ's and highly-erodible soils	The SMZ's have been identified and are included in GIS. When an area is harvested this overlay is checked for potential problems.
At-Risk Species and Natural Communities	
ARS I – Protect ARS&C ranked S1, S2, S2-3, G1, G2 or G2-3 where present	When at risk species are found or could likely be in that type of habitat, an evaluation is done to evaluate how to reduce impact or help the species.
ARS II – Conduct habitat restoration and promote recovery of declining species	The state forest in Chautauqua is already forested. There is a lack of early successional habitat and species composition often becomes narrower in later succession stands. Over the next 10 years approximately 400 acres of forest will be regenerated to create early successional habitat.
ARS III - Consider protection and management of Species of Greatest Conservation Need	When a harvest is being planned, the Natural Heritage data is researched for species that could be found in the affected area.
Visual Resources and Aesthetics	
VR I – Maintain or improve overall quality of visual resources	The signage is continuously being reviewed for effectiveness, where necessary Kiosks will be added to improve access to information about the area
VR II – Use natural materials where feasible	When creating signs, kiosks and other informative information on the Unit use of natural materials is preferred. The use of non-natural materials within the unit is discouraged but will be evaluated case by case.
VR III – Lay out any new roads/trails to highlight vistas and unique natural features	Most of the roads needed in the Chautauqua County Management Unit are already in place. When executing timber sales roadways are under review to be improved. Trails are being improved to carry horses in the Boutwell Hill and North Harmony State Forests. When it is deemed necessary to move a trail to a more sustainable location it will be done.
VR IV – Develop kiosks to provide education and reduce sign pollution	At this time there is only one kiosk. Several other sites are being reviewed for kiosks to contain rules of trails and information on the reforestation area.

Table III.B. –Resource Protection Objectives and Actions	
Objective	**Actions**
Historic and Cultural Resources	
HC I – Preserve and protect historic and cultural resources wherever they occur	When historical sites are discovered they are located and marked by GPS to include in the inventory. This helps to ensure they are noted when activity takes place on that site in the future.
HC II – Inventory resources in GIS and with OPRHP	As historic sites are found on state lands they will be inventoried and marked with GPS points.

Infrastructure and Real Property

Table III.C. –Infrastructure and Real Property Objectives and Actions	
Objective	**Actions**
Boundary Line Maintenance	
BL I – Maintain boundary lines	Boundary line maintenance will be scheduled and completed as funds and man hours allow.
BL II – Address encroachments and other real property problems	Property boundaries will be monitored for violations.
Infrastructure	
INF I – Provide and maintain public forest access roads, access trails, haul roads, parking areas, and associated appurtenances	Road and trails will be continuously monitored and maintained as funding is available.
INF II – Upgrade, replace or relocate infra-structure out of riparian areas where feasible	Unsustainable trails and roads will be phased out as replacements can become available.
INF III – Resolve issues of uncertain legal status or jurisdiction	As issues arise they will be dealt with.
INF IV – Prevent over-development	Trail development within the unit will be determined considering existing trail locations and the amount of property available. There will be potential along the trails for picnic area development but this will be limited. There is no planned expansion of buildings or other facilities.

Public/Permitted Use

Table III.D –Public / Permitted Use Objectives and Actions	
Objective	**Actions**
Universal Access	

Table III.D –Public / Permitted Use Objectives and Actions	
Objective	**Actions**
UA I – Use minimum tool approach to provide universal access to programs	Apply the principles of Universal Design to all new construction related to public programs to the greatest degree possible.
Formal and Informal Partnerships and Agreements	
PRT I – Collaborate with local organizations and governments to reach mutual goals	Through use of volunteer workers we will further develop Adopt –A- Natural Resource Agreements.
PRT II – Consider full range of impacts associated with AANRs and recurring TRPs	As use has expanded over the years the necessity of evaluating and adjusting agreements has increased to limit user conflict. New agreements will be evaluated based on other uses and potential impacts.
Recreation	
REC I – Accommodate public use while preventing illegal activity, reducing impacts and enhancing public safety	Forest roads and trails are monitored, maintained and sometimes closed to preserve the future of public access to the state forests in the management unit.
REC II – Provide public recreation information	Maps will be provided on the DEC website for each of the forests. These maps can be located at http://www.dec.ny.gov/lands/34531.html
REC III – Inventory recreational amenities and schedule recreation management actions	The recreational amenities on the unit are continuously being updated and re-evaluated based on use and demand.
REC IV – Enhance fish & game species habitat	The management schedule creates a wide array of ages of habitat. There will be a balance of age structures that will enhance habitat for many wildlife species.
Off-Highway and All-Terrain Vehicle Use	
ATV I – Enhance recreational access by people with disabilities under the MAPPWD program	As demand increases more haul roads will be evaluated for expansion of MAPPWD access.
ATV II – Consider requests for ATV connector routes across the unit	If outside ATV routes are established State Land connector routes will be evaluated for sustainability.
Mineral Resources	
MR I – Provide for mineral exploration and development while protecting natural resources and recreation	Gas Wells will continue to be monitored. New well locations will be evaluated for environmental impact.
Supporting Local Communities	
LC I – Provide revenue to New York State and economic stimulus for local communities	Small timber sales and firewood sales will be marked and sold along with larger timber sales.

Table III.D –Public / Permitted Use Objectives and Actions	
Objective	**Actions**
LC II – Improve local economies through forest-based tourism	Multiple use trails will continuously be improved for the user's experience.
LC III – Protect rural character and provide ecosystem services to local communities.	Development will be limited within the unit. The timber harvests will be rotated to allow diverse wildlife to thrive in throughout the unit.

Forest Management and Health

Table III.E. –Forest Management and Health Objectives and Actions	
Objective	**Actions**
Forest Products	
FP I – Sustainably manage for forest products	Product sales are developed with the intent to improve the timber growth or regenerate forest once stands have reached maturity.
FP II – Educate the public about the benefits of silviculture	Interpretive signs will be posted along trails and in areas of timber harvests to educate the public on timber harvesting.
Plantation Management	
PM I – Convert plantation stands to natural forest conditions where appropriate	As plantations continue to mature they will be harvested in a manor to maximize natural regeneration.
PM II – Artificially regenerate plantations where appropriate	When there are failures in regeneration, seedlings will be planted to ensure sustainability of the timber resource.
Forest Health	
FH I – Use timber sales to improve forest health and the diversity of species	All timber sales will strive to improve the health of residual trees, remove undesirable elements and increase diversity.
FH II – Protect the unit and surrounding lands from introduced diseases and invasive plant and animal species	When necessary appropriate herbicides will be used to control and eradicate invasive species that are detrimental to the forest health.
Managing Deer Impacts	
DM I – Monitor impacts of deer browsing on forest health and regeneration	Deer impacts will be monitored when inventory and follow up occurs in the stands.
DM II – Address issues of over-browsing	If necessary, deer management permits will be issued for locations with notable deer browse problems.
Fire Management	

Table III.E. –Forest Management and Health Objectives and Actions	
Objective	**Actions**
FM I – Support Forest Rangers in controlling the ignition and spread of wildfires	Members of the forestry staff are trained in fighting forest fires. Staff is available when needed for support in emergency situations with GIS and firefighting support.
FM II – Maintain naturally occurring fire-dependent communities	There are some red oak stands in the county where prescribed burning could be used to manage oak regeneration.
Carbon Sequestration	
CS I – Keep forests as forests, where appropriate	Chautauqua state forest stands will be managed with sound silvicultural practices with a healthy thriving forest as the intended end result.
CS II – Enhance carbon storage in existing stands	Thinning and timber harvesting will be utilized to maximize tree growth.
CS III – Keep forests vigorous and improve forest growth rates	Stagnant stands of timber will be harvested and replaced by younger vigorous trees
CS IV – Sequester carbon in forest products	Sales of timber to sawmills for products such as furniture and structural timber will lock up carbon for years to come.

TEN-YEAR LIST OF MANAGEMENT ACTIONS

See Figure 4 for Forest Stand ID # maps.

Unit-wide Actions

Action 1

Develop and subsequently adopt this UMP with future amendments as needed and periodic updates at least every ten years.

Action 2

Update the web page for each State Forest in this unit, including an electronic, printable map showing the location of recreational amenities.

Action 3

Replace road and forest Identification signs as necessary.

Action 4

Mow and grade forest roads.

Action 5

Inspect wildlife dams and flow control structures

Action 6

Resurface haul roads as needed for timber sales

Action 7

Work with AANR volunteers to improve trail segments on state lands

Action 8

Identify acquisition needs for improved access.

Boutwell Hill State Forest (Chautauqua 1) Actions

Boundary line painting and sign posting (2016, 2023)
Forest stand inventory 2021
Rehab Arab Hill Road south of Housington Road
Rehab NYSRA 1-8 (Boulevard)
Remove or lower Wildlife Pond #1 (north of Boutwell Hill Road)
Oil and Gas well inspections (2013, 16, 19, 22)
Develop approximately 6.1 Miles of sustainable horse trail

North Harmony State Forest (Chautauqua 2) Actions

Continue boundary line surveying projects on unapproved boundary lines
Forest stand inventory (2017)
Boundary line painting and sign posting (2016, 2023)
Rehab 1500 feet of Snake Forest Road
Rehab Wiltsie Marsh Road and Chautauqua 2a Wildlife Dam
Work with AANR to Improve Jasper Park camping area
Provide a Port-a-John to Jasper Park
Develop a parking area before the gate on Wiltsie Marsh Road

Develop approximately 9.5 miles of sustainable horse trail
Oil and Gas well inspections (2013, 16, 19, 22)

Mount Pleasant State Forest (Chautauqua 3) Actions

Boundary line painting and sign posting (2013, 2020)
Forest stand inventory (2022)
Rehab Beck Forest Road
Rehab Spruce Forest Road
Rehab CP3 Trails
Oil and Gas well inspections (2012, 15, 18, 21)

Panama State Forest (Chautauqua 4) Actions

Continue boundary line surveying projects on unapproved boundary lines
Post signs on unapproved line (2014, 2021)
Paint boundary lines as new surveys are completed
Forest stand inventory (2015)
Rehab CP3 Roads
Oil and Gas well inspections (2014, 17, 20, 23)

Chautauqua Gorge State Forest (Chautauqua 5) Actions

Continue boundary line surveying projects on unapproved boundary lines
Forest stand inventory (2023)
Boundary line painting on approved boundary lines and sign posting on all boundary line (2019)
Oil and Gas well inspections (2012, 15, 18, 21)
Provide a Port-a-John to Hannum Road Day Use Area
Clean up ADA Trail on Chautauqua Gorge

Stockton State Forest (Chautauqua 6) Actions

Forest stand inventory (2023)
Continue boundary line surveying projects on unapproved boundary lines
Rehab portions of Blackman Forest Road
Boundary line painting and sign posting (2019)
Paint boundary lines as new surveys are completed
Oil and Gas well inspections (2012, 15, 18, 21)

Boutwell Hill State Forest (Chautauqua 7) Actions

Boundary line painting and sign posting (2015, 2022)
Forest stand inventory (2021)
Rehab Arab Hill Road South of Housington Road
Develop approximately 5.4 Miles of sustainable horse trail

Brokenstraw State Forest (Chautauqua 8) Actions

Forest stand inventory (2018)

Continue boundary line surveying projects on unapproved boundary lines
Lower Goshen Road Wildlife Dam #2
Lower Goshen Road Wildlife Dam #1
Rehab Brokenstraw Forest Road
Post signs on boundary line (2017)
Paint boundary lines as new surveys are completed
Oil and Gas well inspections (2014, 17, 20, 23)

Harris Hill State Forest (Chautauqua 9) Actions

Forest stand inventory (2014)
Boundary line painting and sign posting (2015, 2022)
Oil and Gas well inspections (2013, 16, 19, 22)
Develop approximately 13 miles of sustainable mountain bike trail

Hatch Creek State Forest (Chautauqua 10) Actions

Forest stand inventory (2013)
Continue boundary line surveying projects on unapproved boundary lines
Boundary line painting on approved boundary lines and sign posting on all boundary lines (2018)
Spot gravel South Forest Road
Oil and Gas well inspections (2013, 16, 19, 22)
Develop approximately 6 miles of sustainable mountain bike trail

Whalen State Forest (Chautauqua 11) Actions

Forest stand inventory (2019)
Boundary line painting and sign posting (2013, 2020)
Install a culvert before the new parking lot
Place Rocks to protect culvert ends
Replace culvert in danger of failing on forest road
Develop approximately 3 miles of sustainable mountain bike trail
Oil and Gas well inspections (2014, 17, 20, 23)

Harris Hill State Forest (Chautauqua 12) Actions

Forest stand inventory (2014)
Boundary line painting and sign posting (2016, 2023)
Rehab Sprague Forest Road

Hill Higher State Forest (Chautauqua 13) Actions

Boundary line painting on approved lines and post signs on all lines (2013, 2020)
Forest stand inventory (2016)
Rehab CP3 Roads
Rehab Hill Higher Forest Road
Oil and Gas well inspections (2014, 17, 20, 23)

Wellman State Forest (Chautauqua 14) Actions

Forest stand inventory (2016)
Continue boundary line surveying projects on unapproved boundary lines
Post signs on all boundary lines (2014)
Paint new surveyed lines as it is completed
Improve Haul roads as needed
Oil and Gas well inspections (2014, 17, 20, 23)

FOREST TYPE CODES

Natural Forest Types

10 Northern Hardwood
11 Northern Hardwood-Hemlock
13 Northern Hardwood-Spruce-Fir
12 Northern Hardwood-White Pine
14 Pioneer Hardwood
15 Swamp Hardwood
16 Oak
17 Black Locust
18 Oak-Hickory
19 Oak-Hemlock
20 Hemlock
21 White Pine
22 White Pine-Hemlock
23 Spruce-Fir
24 Spruce-Fir-Hemlock-White Pine
25 Cedar
26 Red Pine
27 Pitch Pine
28 Jack Pine
29 Tamarack
30 Oak-Pine
31 Transition Hardwoods (NH-Oak)
32 Other Natural Stands
33 Northern Hardwood-Norway Spruce
97 Seedling-Sapling- Natural
99 Non-Forest
-99 Null

Plantation Types

40 Plantation: Red Pine
41 Plantation: White Pine
42 Plantation: Scotch Pine
43 Plantation: Austrian Pine
44 Plantation: Jack Pine
45 Plantation: Norway Spruce
46 Plantation: White Spruce
47 Plantation: Japanese Larch
48 Plantation: European Larch
49 Plantation: White Cedar
50 Plantation: Douglas Fir
51 Plantation: Balsam Fir
52 Plantation: Black Locust
53 Plantation: Pitch Pine
54 Plantation: Misc. Species (Pure)
60 Plantation: Red Pine-White Pine
61 Plantation: Red Pine-Spruce
62 Plantation: Red Pine-Larch
63 Plantation: White Pine-Spruce
64 Plantation: White Pine-Larch
65 Plantation: Scotch Pine-Spruce
66 Plantation: Scotch Pine-Larch
67 Plantation: Larch-Spruce
68 Plantation: Bucket Mixes
70 Plantation: Pine-Natural Species
72 Plantation: Misc. Hardwood
98 Plantation: Seedling-Sapling

MANAGEMENT STRATEGY

Wildlife (WL) Experimental (EXP)
Recreation (REC)
Protection (PRO)
Non-Management (NM)
Sale Stand (SS)
Timber Management:
- Even Age (T-EA)
- Un-Even Age (T-UE)
- Non-Silvicultural (T-NS)

TREATMENT TYPE

Harvest (HV)
Release (RL)
Salvage (SL)
Sanitation (SN)
Thinning (TH)
Regeneration (RG)
Habitat Management (HM)

LAND MANAGEMENT ACTION SCHEDULES

Table III.F. - Land Management Action Schedule for First Five-Year Period (by State Forest)								
State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Boutwell Hill, Chautauqua 1	4	34.2	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 1	6	55.1	10	10	10	UE	UE	TH
Boutwell Hill, Chautauqua 1	11	9.8	45	97	33	EA	EA	RG
Boutwell Hill, Chautauqua 1	18	17.1	67	67	33	EA	UE	TH
Boutwell Hill, Chautauqua 1	19	14.1	10	10	10	EA	EA	TH
Boutwell Hill, Chautauqua 1	21	6.0	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 1	32	24.7	10	10	10	UE	UE	TH
Boutwell Hill, Chautauqua 1	35	116.4	10	10	10	EA	UE	TH
Boutwell Hill, Chautauqua 1	36	22.4	45	45	33	EA	EA	TH
Boutwell Hill, Chautauqua 1	46	24.6	45	33	33	EA	EA	RL
Boutwell Hill, Chautauqua 1	47	20.3	45	33	33	EA	EA	RL
Boutwell Hill, Chautauqua 1	48	41	45	33	33	EA	EA	TH
Boutwell Hill, Chautauqua 1	51	45.6	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 1	52	56.8	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 1	54	56	10	10	10	UE	UE	TH
Boutwell Hill, Chautauqua 1	55	38.2	45	33	97	EA	EA	RL
North Harmony, Chautauqua 2	2	62.9	45	45	33	EA	EA	TH
North Harmony, Chautauqua 2	4	32.1	32	10	10	UE	UE	TH
North Harmony, Chautauqua 2	49	62.2	45	45	97	EA	EA	TH
North Harmony, Chautauqua 2	50	21.4	12	12	12	UE	UE	TH
North Harmony, Chautauqua 2	51	20.8	32	97	32	EA	EA	RL
North Harmony, Chautauqua 2	73	14.1	70	32	32	EA	EA	TH
North Harmony, Chautauqua 2	80	10.8	45	45	33	EA	EA	TH
North Harmony, Chautauqua 2	81.1	151.6	10	10	10	UE	UE	TH
North Harmony, Chautauqua 2	85	16.8	40	32	32	EA	EA	RE
North Harmony, Chautauqua 2	102.1	20.65	40	40	10	EA	EA	TH

Table III.F. - Land Management Action Schedule for First Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
North Harmony, Chautauqua 2	107	51.2	10	10	10	UE	UE	TH
Mount Pleasant, Chautauqua 3	3	5.7	32	10	10	UE	UE	TH
Mount Pleasant, Chautauqua 3	6	5.5	11	11	11	UE	UE	TH
Mount Pleasant, Chautauqua 3	9	13.1	45	45	97	EA	EA	TH
Mount Pleasant, Chautauqua 3	21	23.6	32	32	32	EA	UE	RL
Mount Pleasant, Chautauqua 3	28	5	32	32	10	EA	UE	TH
Mount Pleasant, Chautauqua 3	29	59.5	10	10	10	UE	UE	TH
Mount Pleasant, Chautauqua 3	30	13.2	11	11	11	EA	UE	TH
Mount Pleasant, Chautauqua 3	31	15.7	32	11	11	UE	UE	TH
Mount Pleasant, Chautauqua 3	33	7.9	45	45	97	EA	EA	TH
Mount Pleasant, Chautauqua 3	35	42.8	11	11	11	UE	UE	TH
Mount Pleasant, Chautauqua 3	38	5.4	45	97	33	EA	EA	RL
Mount Pleasant, Chautauqua 3	39	19.1	45	45	33	EA	EA	RL
Mount Pleasant, Chautauqua 3	51	35	45	97	33	EA	EA	RL
Mount Pleasant, Chautauqua 3	60	10.0	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	61	4.1	45	97	10	EA	EA	RL
Mount Pleasant, Chautauqua 3	64	45.8	10	10	10	UE	UE	TH
Mount Pleasant, Chautauqua 3	66	23.3	10	10	10	UE	UE	TH
Mount Pleasant, Chautauqua 3	67	21.9	45	45	33	EA	EA	TH
Mount Pleasant, Chautauqua 3	69	2.	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	70	19.5	48	48	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	71	15.3	45	97	32	EA	EA	RL
Mount Pleasant, Chautauqua 3	72	10.4	32	97	10	EA	EA	RL
Mount Pleasant, Chautauqua 3	73	6.1	45	45	33	EA	EA	TH
Mount Pleasant, Chautauqua 3	75	36.9	32	11	11	EA	UE	TH
Mount Pleasant, Chautauqua 3	78	3.5	54	32	32	EA	UE	TH
Mount Pleasant, Chautauqua 3	80	49.3	45	32	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	81	6.5	43	97	10	EA	EA	RL
Mount Pleasant, Chautauqua 3	98	23.8	11	11	11	EA	UE	TH

Table III.F. - Land Management Action Schedule for First Five-Year Period (by State Forest)								
State Forests	**Stand**	**Acres**	**Forest Type**			**Management Category**		**Treatment Type**
			Current	Post Treatment	Future	Current	Future	
Panama, Chautauqua 4	1	24	10	10	10	UE	UE	TH
Panama, Chautauqua 4	2	18.9	42	32	32	EA	EA	TH
Panama, Chautauqua 4	3	10.2	15	10	10	EA	UE	TH
Panama, Chautauqua 4	4	6.2	32	32	32	UE	UE	TH
Panama, Chautauqua 4	7	40.4	10	11	11	UE	UE	TH
Panama, Chautauqua 4	8	9	45	45	97	EA	EA	RL
Panama, Chautauqua 4	13	12	45	45	97	EA	EA	TH
Panama, Chautauqua 4	14.1	55.0	10	10	10	UE	UE	TH
Panama, Chautauqua 4	19	17	10	10	10	UE	UE	TH
Panama, Chautauqua 4	20.2	49.8	11	11	11	UE	UE	TH
Panama, Chautauqua 4	22	26.5	45	45	97	EA	EA	TH
Panama, Chautauqua 4	25	17.8	62	62	97	EA	EA	TH
Panama, Chautauqua 4	27	20.2	47	97	32	EA	EA	RL
Panama, Chautauqua 4	33	10.8	47	47	32	EA	EA	TH
Panama, Chautauqua 4	35	105	32	10	10	UE	UE	TH
Panama, Chautauqua 4	36	54.3	45	45	33	EA	EA	TH
Panama, Chautauqua 4	39	77.3	10	10	10	UE	UE	TH
Panama, Chautauqua 4	42	10.8	67	32	32	EA	EA	TH
Panama, Chautauqua 4	43	13.3	67	32	32	EA	EA	TH
Chautauqua Gorge, Chautauqua 5	3.2	5.9	47	47	32	EA	EA	TH
Chautauqua Gorge, Chautauqua 5	4	2.6	32	32	11	UE	UE	TH
Chautauqua Gorge, Chautauqua 5	14	22.1	32	10	10	UE	EA	RL
Chautauqua Gorge, Chautauqua 5	17	14.9	32	10	10	UE	EA	RL
Stockton, Chautauqua 6	7.1	63.3	47	47	32	EA	EA	TH
Stockton, Chautauqua 6	9	54.3	47	47	32	EA	EA	TH
Stockton, Chautauqua 6	25	8.3	32	32	32	UE	EA	RL
Stockton, Chautauqua 6	37.1	21.1	45	45	13	EA	EA	TH
Boutwell Hill, Chautauqua 7	15	32.9	45	33	33	EA	UE	RL
Boutwell Hill, Chautauqua 7	16	3.1	54	10	10	EA	UE	TH

Table III.F. - Land Management Action Schedule for First Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Boutwell Hill, Chautauqua 7	22	28.3	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	23	3.4	32	32	32	EA	UE	TH
Boutwell Hill, Chautauqua 7	25	50.9	10	10	10	UE	UE	TH
Boutwell Hill, Chautauqua 7	26	12.9	32	97	32	UE	UE	RL
Boutwell Hill, Chautauqua 7	27	3.9	32	97	32	UE	UE	RL
Boutwell Hill, Chautauqua 7	28	53.3	45	45	33	UE	UE	TH
Boutwell Hill, Chautauqua 7	29	38.1	10	10	10	EA	EA	TH
Boutwell Hill, Chautauqua 7	30	34.6	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	36	3.9	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	41	51.4	11	11	11	UE	UE	TH
Boutwell Hill, Chautauqua 7	42	91.8	45	45	33	EA	EA	TH
Boutwell Hill, Chautauqua 7	44	2.2	52	52	32	EA	EA	TH
Brokenstraw Chautauqua 8	3	13.1	54	54	31	EA	EA	TH
Brokenstraw, Chautauqua 8	17	9.9	32	32	32	UE	UE	TH
Brokenstraw Chautauqua 8	24	59	67	67	32	EA	EA	TH
Brokenstraw Chautauqua 8	26	21	11	11	11	UE	UE	TH
Harris Hill, Chautauqua 9 A	3	4.6	32	32	10	UE	UE	TH
Harris Hill, Chautauqua 9 A	4	30.8	10	10	10	UE	UE	TH
Harris Hill, Chautauqua 9 A	5	19.9	47	47	32	EA	EA	TH
Harris Hill, Chautauqua 9 A	17	19.9	47	47	32	EA	EA	TH
Harris Hill, Chautauqua 9 A	20	9.7	41	41	12	EA	UE	TH
Harris Hill, Chautauqua 9 B	1	7.1	32	32	10	UE	UE	TH
Harris Hill, Chautauqua 9 B	3	3.3	32	32	10	UE	UE	TH
Harris Hill, Chautauqua 9 B	10	28.3	10	10	10	UE	UE	TH
Harris Hill, Chautauqua 9 B	12	29	45	45	33	EA	EA	TH
Harris Hill, Chautauqua 9 B	13	2.9	40	40	10	EA	EA	TH
Harris Hill, Chautauqua 9 B	15	5.9	32	32	32	UE	UE	TH
Hatch Creek, Chautauqua 10	3	26.6	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	14	27.1	45	45	33	EA	EA	TH

Table III.F. - Land Management Action Schedule for First Five-Year Period (by State Forest)								
State Forests	**Stand**	**Acres**	**Forest Type**			**Management Category**		**Treatment Type**
			Current	Post Treatment	Future	Current	Future	
Hatch Creek, Chautauqua 10	19	10.4	45	97	32	EA	EA	RL
Hatch Creek, Chautauqua 10	22	16	32	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	24	15.5	42	32	10	EA	UE	TH
Hatch Creek, Chautauqua 10	32.3	4.1	41	41	12	EA	EA	TH
Hatch Creek, Chautauqua 10	33	39.3	42	97	32	EA	EA	RL
Hatch Creek, Chautauqua 10	42	1.6	40	40	32	EA	EA	TH
Hatch Creek, Chautauqua 10	62	17.8	12	12	12	UE	UE	TH
Hatch Creek, Chautauqua 10	63	4.9	32	32	32	UE	UE	TH
Hatch Creek, Chautauqua 10	64.2	21.8	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	1	11.7	32	10	10	UE	UE	RE
Whalen Memorial, Chautauqua 11	14	4.1	40	40	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	21	3.6	47	47	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	31.2	15.4	40	97	32	EA	EA	RE
Whalen Memorial, Chautauqua 11	39	11.2	32	32	11	UE	UE	TH
Whalen Memorial, Chautauqua 11	41	14.6	45	97	13	EA	UE	RL
Whalen Memorial, Chautauqua 11	53	8.4	47	47	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	59.1	10	54	54	32	EA	UE	TH
Whalen Memorial, Chautauqua 11	63	8.3	40	40	32	EA	UE	RL
Whalen Memorial, Chautauqua 11	42.1	28.8	32	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	60	11.3	32	97	32	UE	UE	RL
Whalen Memorial, Chautauqua 11	61.1	12.2	45	45	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	63	8.3	40	40	32	EA	EA	RL
Harris Hill, Chautauqua 12	16	8.4	32	10	10	UE	UE	TH
Harris Hill, Chautauqua 12	25	3.8	52	52	10	EA	EA	TH
Harris Hill, Chautauqua 12	28	4.2	32	10	10	UE	UE	TH
Hill Higher, Chautauqua 13	2	6.4	11	11	11	UE	UE	TH
Hill Higher, Chautauqua 13	4	15.2	40	40	32	EA	EA	TH
Hill Higher, Chautauqua 13	37.2	16.2	47	47	10	EA	EA	TH
Hill Higher, Chautauqua 13	45	23.2	10	10	10	UE	UE	TH

Table III.F. - Land Management Action Schedule for First Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Hill Higher, Chautauqua 13	46	52.2	10	10	10	UE	UE	TH
Hill Higher, Chautauqua 13	47	24.2	10	10	10	UE	UE	TH
Hill Higher, Chautauqua 13	48	73.9	10	10	10	UE	UE	RL
Hill Higher, Chautauqua 13	50	12.6	32	10	10	UE	UE	TH
Wellman, Chautauqua 14	6	3.6	48	97	32	EA	EA	RL
Wellman, Chautauqua 14	7	5.8	67	97	33	EA	EA	RL
Wellman, Chautauqua 14	10	1.2	48	97	32	EA	EA	RL
Wellman, Chautauqua 14	21	3.0	32	10	10	UE	UE	TH
Wellman, Chautauqua 14	26	16.2	10	10	10	UE	EA	RL
Wellman, Chautauqua 14	27	18.4	32	10	10	UE	UE	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Boutwell Hill Chautauqua RA 1	2	24.0	32	32	10	EA	UE	TH
Boutwell Hill Chautauqua RA 1	5	9.5	32	32	10	EA	UE	TH
Boutwell Hill Chautauqua RA 1	9	22.0	32	32	10	EA	EA	TH
Boutwell Hill Chautauqua RA 1	13	4.2	40	32	10	EA	EA	RL
Boutwell Hill Chautauqua RA 1	14	3.9	47	47	32	EA	EA	TH
Boutwell Hill Chautauqua RA 1	24	5.6	32	32	32	EA	EA	RL
Boutwell Hill Chautauqua RA 1	27	18.7	40	32	32	EA	EA	RL
Boutwell Hill Chautauqua RA 1	29	10.0	32	32	32	EA	EA	TH
Boutwell Hill Chautauqua RA 1	38	16.9	45	32	10	EA	UE	RL
Boutwell Hill Chautauqua RA 1	39.1	43.9	10	10	10	UE	UE	TH
Boutwell Hill Chautauqua RA 1	40	80.3	10	10	10	UE	UE	RL
Boutwell Hill Chautauqua RA 1	42	11.5	32	32	32	UE	UE	TH
Boutwell Hill Chautauqua RA 1	45	51.7	10	10	10	UE	UE	RL

Table III.G. - Land Management Action Schedule for Second Five-Year Period (by State Forest)								
State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Boutwell Hill Chautauqua RA 1	49	15.5	54	32	32	EA	EA	TH
Boutwell Hill Chautauqua RA 1	56	9.3	45	97	33	EA	EA	RL
Boutwell Hill Chautauqua RA 1	57	12.5	54	97	32	EA	EA	RL
North Harmony, Chautauqua 2	5	19.8	11	11	11	EA	UE	TH
North Harmony, Chautauqua 2	8	7.8	32	32	32	UE	UE	TH
North Harmony, Chautauqua 2	9	12.3	32	32	32	UE	UE	TH
North Harmony, Chautauqua 2	10	16.9	71	97	32	EA	EA	RL
North Harmony, Chautauqua 2	11	29.9	45	97	32	EA	EA	RL
North Harmony, Chautauqua 2	14.1	34.3	10	10	10	UE	EA	RL
North Harmony, Chautauqua 2	15	36.6	10	10	10	UE	UE	TH
North Harmony, Chautauqua 2	21	59.6	45	32	32	EA	EA	RL
North Harmony, Chautauqua 2	24	12.2	32	32	32	UE	EA	TH
North Harmony, Chautauqua 2	30	4.2	54	12	12	EA	UE	TH
North Harmony, Chautauqua 2	31	32.8	70	12	12	EA	UE	TH
North Harmony, Chautauqua 2	32	14.6	40	32	12	EA	UE	TH
North Harmony, Chautauqua 2	35	27.3	71	32	32	EA	EA	TH
North Harmony, Chautauqua 2	43	9.6	32	32	32	UE	EA	TH
North Harmony, Chautauqua 2	54	21.0	45	32	32	EA	EA	RL
North Harmony, Chautauqua 2	55	42.8	10	10	10	UE	UE	TH
North Harmony, Chautauqua 2	56	22.2	45	97	32	EA	EA	RL
North Harmony, Chautauqua 2	62	37.9	10	10	10	UE	EA	RL
North Harmony, Chautauqua 2	66	6.4	32	32	32	UE	EA	TH
North Harmony, Chautauqua 2	67	22.2	45	45	32	EA	EA	TH
North Harmony, Chautauqua 2	74	10.3	40	32	12	EA	EA	RL
North Harmony, Chautauqua 2	76	15.1	40	32	32	EA	UE	RL
North Harmony, Chautauqua 2	83	25.0	32	32	32	EA	UE	TH
North Harmony, Chautauqua 2	97	33.9	11	11	11	UE	UE	TH
North Harmony, Chautauqua 2	100	5.7	32	32	32	UE	EA	TH
North Harmony, Chautauqua 2	101	7.4	40	32	32	EA	EA	RL

Table III.G. - Land Management Action Schedule for Second Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Mount Pleasant, Chautauqua 3	7	15.6	32	32	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	11	11.8	32	97	32	EA	EA	RL
Mount Pleasant, Chautauqua 3	12	13.1	54	32	32	EA	UE	TH
Mount Pleasant, Chautauqua 3	15	35	32	32	32	EA	UE	TH
Mount Pleasant, Chautauqua 3	20	11.2	32	32	32	EA	UE	TH
Mount Pleasant, Chautauqua 3	22	4.2	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	23	20.8	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	25	39.8	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	36	11.8	32	11	11	UE	UE	TH
Mount Pleasant, Chautauqua 3	37	35.4	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	42	4.8	32	32	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	43	29.5	45	97	32	EA	EA	RL
Mount Pleasant, Chautauqua 3	44	1.5	68	68	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	45	1.7	45	97	32	EA	UE	RL
Mount Pleasant, Chautauqua 3	46	5.4	45	45	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	48	8.9	32	32	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	53	3.4	32	97	32	UE	EA	RL
Mount Pleasant, Chautauqua 3	56.1	16.0	32	32	32	UE	EA	TH
Mount Pleasant, Chautauqua 3	58	16.2	32	32	32	UE	UE	TH
Mount Pleasant, Chautauqua 3	59	18.6	11	11	11	UE	UE	TH
Mount Pleasant, Chautauqua 3	63	6.5	32	32	32	EA	EA	TH
Mount Pleasant, Chautauqua 3	68	19.3	32	32	32	EA	UE	TH
Panama, Chautauqua 4	5	11.3	32	32	32	UE	UE	TH
Panama, Chautauqua 4	12	27.5	10	10	10	UE	UE	TH
Panama, Chautauqua 4	14.2	39.8	11	11	11	UE	UE	TH
Panama, Chautauqua 4	15	76.5	10	10	10	UE	EA	TH
Panama, Chautauqua 4	16	7.5	11	11	11	UE	UE	TH
Panama, Chautauqua 4	23	36.5	10	10	10	UE	UE	TH
Panama, Chautauqua 4	24	22.0	46	46	32	EA	EA	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period (by State Forest)								
State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Panama, Chautauqua 4	28	6.1	45	32	32	EA	EA	RL
Panama, Chautauqua 4	30	25.1	42	32	32	EA	EA	TH
Panama, Chautauqua 4	31	28.9	48	48	32	EA	EA	TH
Panama, Chautauqua 4	32	25.4	41	41	12	EA	UE	TH
Panama, Chautauqua 4	34	14.0	40	32	32	EA	EA	TH
Panama, Chautauqua 4	44	3.9	54	54	32	EA	UE	TH
Chautauqua Gorge, Chautauqua 5	6	4.8	32	32	32	UE	UE	TH
Chautauqua Gorge, Chautauqua 5	8.21	60.0	10	10	10	UE	UE	TH
Chautauqua Gorge, Chautauqua 5	11	131.8	10	10	10	UE	UE	TH
Chautauqua Gorge, Chautauqua 5	15	19.9	45	97	32	EA	EA	RL
Chautauqua Gorge, Chautauqua 5	16	19.0	45	97	32	EA	EA	RL
Stockton, Chautauqua 6	1	116.2	11	11	11	EA	UE	TH
Stockton, Chautauqua 6	3	15.9	32	32	32	EA	EA	TH
Stockton, Chautauqua 6	16	52.3	11	11	11	UE	UE	TH
Stockton, Chautauqua 6	18	24.5	32	97	32	UE	EA	RL
Stockton, Chautauqua 6	21	38.8	10	10	10	UE	UE	TH
Stockton, Chautauqua 6	23	27.2	32	32	32	EA	UE	TH
Stockton, Chautauqua 6	24	21.8	32	32	32	UE	EA	TH
Stockton, Chautauqua 6	27	55	11	11	11	UE	UE	TH
Stockton, Chautauqua 6	29	22.7	54	32	10	EA	UE	RL
Stockton, Chautauqua 6	30	28.1	45	45	32	EA	EA	TH
Stockton, Chautauqua 6	31	2.6	32	32	32	EA	EA	TH
Stockton, Chautauqua 6	32	25.0	41	41	12	EA	UE	TH
Stockton, Chautauqua 6	33	37.5	47	47	32	EA	EA	TH
Stockton, Chautauqua 6	34	1.7	32	32	32	UE	UE	TH
Stockton, Chautauqua 6	35	6.3	32	32	32	EA	UE	TH
Stockton, Chautauqua 6	36	4.2	32	32	32	UE	UE	TH
Stockton, Chautauqua 6	40	36.9	32	32	11	UE	UE	TH
Boutwell Hill, Chautauqua 7	7	22.5	32	32	32	UE	UE	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Boutwell Hill, Chautauqua 7	8	10.0	32	32	32	EA	UE	TH
Boutwell Hill, Chautauqua 7	10	20.1	32	32	32	EA	UE	TH
Boutwell Hill, Chautauqua 7	11	11.1	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	17.2	53.4	32	32	32	UE	EA	TH
Boutwell Hill, Chautauqua 7	18	34.2	32	32	32	EA	UE	TH
Boutwell Hill, Chautauqua 7	19	39.1	32	32	32	UE	EA	TH
Boutwell Hill, Chautauqua 7	20	14.4	32	32	32	EA	EA	TH
Boutwell Hill, Chautauqua 7	21	20.9	32	32	32	EA	EA	TH
Boutwell Hill, Chautauqua 7	24	12.6	32	32	32	EA	EA	TH
Boutwell Hill, Chautauqua 7	31	6.3	32	32	32	EA	EA	TH
Boutwell Hill, Chautauqua 7	38	2.9	32	32	32	EA	UE	TH
Boutwell Hill, Chautauqua 7	39	50.6	45	45	33	EA	EA	TH
Boutwell Hill, Chautauqua 7	40	29.1	45	45	33	EA	EA	TH
Boutwell Hill, Chautauqua 7	46	38.0	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	47	41.3	45	45	33	EA	EA	TH
Boutwell Hill, Chautauqua 7	48	13.1	32	32	32	UE	UE	TH
Boutwell Hill, Chautauqua 7	51	57.0	10	10	10	UE	UE	TH
Boutwell Hill, Chautauqua 7	54	114.9	10	10	10	UE	EA	TH
Brokenstraw, Chautauqua 8	1.1	62.1	10	10	10	UE	UE	TH
Brokenstraw, Chautauqua 8	1.2	10.1	32	32	32	UE	EA	TH
Brokenstraw, Chautauqua 8	1.3	4.7	32	32	32	UE	UE	TH
Brokenstraw, Chautauqua 8	4	25.0	11	11	11	EA	UE	TH
Brokenstraw, Chautauqua 8	6	11.9	47	47	32	EA	EA	TH
Brokenstraw, Chautauqua 8	7	44.0	10	10	10	UE	UE	TH
Brokenstraw, Chautauqua 8	11	19.9	32	32	32	UE	UE	TH
Brokenstraw, Chautauqua 8	14	3.2	32	32	32	UE	UE	TH
Brokenstraw, Chautauqua 8	15	8.6	47	97	32	EA	UE	RL
Brokenstraw, Chautauqua 8	21	12.2	11	11	11	EA	UE	TH
Brokenstraw, Chautauqua 8	25	45.6	41	41	12	EA	UE	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period (by State Forest)								
State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Brokenstraw, Chautauqua 8	27	15.6	11	11	11	UE	UE	TH
Brokenstraw, Chautauqua 8	29	25.5	32	32	32	EA	UE	TH
Brokenstraw, Chautauqua 8	30	10.8	32	32	32	EA	UE	TH
Brokenstraw, Chautauqua 8	32	4.6	54	54	16	EA	UE	TH
Brokenstraw, Chautauqua 8	36	24.3	10	10	10	UE	UE	TH
Brokenstraw, Chautauqua 8	37	17.1	45	97	32	EA	EA	RL
Brokenstraw, Chautauqua 8	40	45.6	32	32	32	UE	UE	TH
Brokenstraw, Chautauqua 8	41	43.6	10	10	10	UE	UE	TH
Harris Hill, Chautauqua 9-A	7	24.2	11	11	11	UE	UE	TH
Harris Hill, Chautauqua 9-A	8	16.9	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-A	9	13.6	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-A	14	13.6	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-A	16	9.6	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-A	21	33.3	10	10	10	UE	UE	TH
Harris Hill, Chautauqua 9-A	25	16.3	46	97	32	EA	EA	RL
Harris Hill, Chautauqua 9-A	26	28.0	46	32	32	EA	UE	TH
Harris Hill, Chautauqua 9-B	4	27.5	41	41	12	EA	UE	TH
Harris Hill, Chautauqua 9-B	5	13.3	32	32	32	EA	UE	TH
Harris Hill, Chautauqua 9-B	6	70.8	32	32	32	EA	UE	TH
Harris Hill, Chautauqua 9-C	3.2	37.9	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-C	6	5.7	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 9-C	8	7.0	32	32	32	EA	UE	TH
Harris Hill, Chautauqua 9-C	9	16.9	45	45	32	EA	EA	TH
Hatch Creek, Chautauqua 10	2	24.7	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	5	43.0	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	7	32.9	45	32	32	EA	EA	RL
Hatch Creek, Chautauqua 10	10	44.0	10	10	10	UE	EA	TH
Hatch Creek, Chautauqua 10	11	24.8	45	32	32	EA	EA	RL
Hatch Creek, Chautauqua 10	17	12.8	32	32	32	EA	EA	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period **(by State Forest)**

State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Hatch Creek, Chautauqua 10	23	18.1	54	32	32	UE	UE	TH
Hatch Creek, Chautauqua 10	31.2	3.4	32	32	32	EA	UE	TH
Hatch Creek, Chautauqua 10	38.2	21.7	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	45	24.3	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	49	8.1	32	32	32	EA	EA	TH
Hatch Creek, Chautauqua 10	53	8.5	45	97	32	EA	EA	RL
Hatch Creek, Chautauqua 10	55	5.2	45	97	32	EA	EA	RL
Hatch Creek, Chautauqua 10	56	26.5	10	10	10	UE	UE	TH
Hatch Creek, Chautauqua 10	61	38.2	47	97	32	EA	EA	RL
Whalen Memorial, Chautauqua 11	2	15.6	10	10	10	EA	UE	TH
Whalen Memorial, Chautauqua 11	4	8.6	32	32	32	EA	UE	TH
Whalen Memorial, Chautauqua 11	12	12.0	32	32	32	UE	UE	TH
Whalen Memorial, Chautauqua 11	15	4.0	42	42	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	17	27.8	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	18.2	15.0	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	28	45.1	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	35	11.9	42	97	32	EA	EA	RL
Whalen Memorial, Chautauqua 11	36	4.5	32	32	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	38	7.2	45	45	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	40	20.6	45	32	32	EA	EA	TH
Whalen Memorial, Chautauqua 11	43	70.6	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	45	24.7	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	49	3.4	32	32	32	UE	UE	TH
Whalen Memorial, Chautauqua 11	56	71.9	10	10	10	UE	UE	TH
Whalen Memorial, Chautauqua 11	59.2	63.4	11	11	11	UE	UE	TH
Whalen Memorial, Chautauqua 11	72	9.6	32	32	32	UE	UE	TH
Whalen Memorial, Chautauqua 11	76	14.1	11	11	11	UE	UE	TH
Whalen Memorial, Chautauqua 11	79	18.9	67	67	32	EA	UE	TH
Whalen Memorial, Chautauqua 11	80	21.0	10	10	10	UE	UE	TH

Table III.G. - Land Management Action Schedule for Second Five-Year Period (by State Forest)								
State Forests	Stand	Acres	Forest Type			Management Category		Treatment Type
			Current	Post Treatment	Future	Current	Future	
Whalen Memorial, Chautauqua 11	85	20.9	63	63	32	EA	EA	TH
Harris Hill, Chautauqua 12	6	31.5	10	10	10	UE	UE	TH
Harris Hill, Chautauqua 12	22	10.9	32	32	32	UE	UE	TH
Harris Hill, Chautauqua 12	23	31.9	10	10	10	EA	UE	TH
Harris Hill, Chautauqua 12	26	12.7	32	32	32	EA	UE	TH
Hill Higher, Chautauqua 13	3	40.9	40	97	32	EA	EA	RL
Hill Higher, Chautauqua 13	6	6.0	32	32	32	UE	EA	RL
Hill Higher, Chautauqua 13	7	23.0	10	10	11	EA	UE	TH
Hill Higher, Chautauqua 13	8	16.5	11	11	11	UE	UE	TH
Hill Higher, Chautauqua 13	9	18.1	11	11	11	EA	UE	TH
Hill Higher, Chautauqua 13	10	28.1	47	47	32	EA	EA	RL
Hill Higher, Chautauqua 13	12	1.5	32	32	32	UE	EA	TH
Hill Higher, Chautauqua 13	13	36.7	11	11	11	EA	UE	TH
Hill Higher, Chautauqua 13	19	10.2	45	45	32	EA	EA	TH
Hill Higher, Chautauqua 13	22	12.6	47	97	32	EA	EA	TH
Hill Higher, Chautauqua 13	35.2	41.2	10	10	10	UE	UE	TH
Hill Higher, Chautauqua 13	36	24	11	11	11	UE	UE	TH
Hill Higher, Chautauqua 13	38	14.8	11	11	11	EA	UE	TH
Hill Higher, Chautauqua 13	39.1	4.8	32	32	32	UE	UE	TH
Hill Higher, Chautauqua 13	39.2	13.8	32	32	32	UE	UE	TH
Hill Higher, Chautauqua 13	40	4.2	32	32	32	EA	EA	TH
Hill Higher, Chautauqua 13	42	21.6	10	10	10	UE	UE	TH
Hill Higher, Chautauqua 13	43	22.1	15	15	15	UE	UE	TH
Hill Higher, Chautauqua 13	44	11.1	32	32	32	UE	UE	TH
Hill Higher, Chautauqua 13	49	5.4	32	32	32	UE	UE	TH
Wellman, Chautauqua 14	16	17.1	10	10	10	UE	UE	TH
Wellman, Chautauqua 14	18	39.7	10	10	10	UE	UE	TH
Wellman, Chautauqua 14	23	2.2	40	40	32	EA	EA	TH

Table III.H. - Stands without Scheduled Management within 10 Years **(by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Boutwell Hill, Chautauqua RA 1	1	24	45	33
Boutwell Hill, Chautauqua RA 1	3	6.2	32	32
Boutwell Hill, Chautauqua RA 1	7	69.5	10	10
Boutwell Hill, Chautauqua RA 1	10	35.7	45	33
Boutwell Hill, Chautauqua RA 1	11	28.2	45	33
Boutwell Hill, Chautauqua RA 1	15	3.4	46	32
Boutwell Hill, Chautauqua RA 1	16	15.7	48	13
Boutwell Hill, Chautauqua RA 1	19	84.8	10	10
Boutwell Hill, Chautauqua RA 1	20	11.0	32	32
Boutwell Hill, Chautauqua RA 1	22	4.6	32	32
Boutwell Hill, Chautauqua RA 1	23	4.3	32	32
Boutwell Hill, Chautauqua RA 1	26	27.0	12	12
Boutwell Hill, Chautauqua RA 1	30	49.3	10	10
Boutwell Hill, Chautauqua RA 1	33	9.3	32	32
Boutwell Hill, Chautauqua RA 1	34	20.9	46	32
Boutwell Hill, Chautauqua RA 1	37	45.6	97	32
Boutwell Hill, Chautauqua RA 1	38	9.9	13	13
Boutwell Hill, Chautauqua RA 1	41	7.8	32	32
Boutwell Hill, Chautauqua RA 1	43	3.6	32	32
Boutwell Hill, Chautauqua RA 1	44	9.1	32	32
Boutwell Hill, Chautauqua RA 1	50	15.1	32	32
Boutwell Hill, Chautauqua RA 1	53	13.3	32	32
North Harmony, Chautauqua RA 2	1	2.8	32	32
North Harmony, Chautauqua RA 2	3	42.6	11	11
North Harmony, Chautauqua RA 2	6	3.8	32	32
North Harmony, Chautauqua RA 2	12	2.4	32	32
North Harmony, Chautauqua RA 2	13	14.9	32	32
North Harmony, Chautauqua RA 2	14.2	15.8	15	15

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
North Harmony, Chautauqua RA 2	16	10.9	15	15
North Harmony, Chautauqua RA 2	17	6.85	32	32
North Harmony, Chautauqua RA 2	19	3.54	32	32
North Harmony, Chautauqua RA 2	22	18.2	32	32
North Harmony, Chautauqua RA 2	23	17.7	32	32
North Harmony, Chautauqua RA 2	26	27.6	41	12
North Harmony, Chautauqua RA 2	28	15.3	32	32
North Harmony, Chautauqua RA 2	33	36.4	10	10
North Harmony, Chautauqua RA 2	34	9.72	32	32
North Harmony, Chautauqua RA 2	36	5	32	32
North Harmony, Chautauqua RA 2	38	17.9	10	10
North Harmony, Chautauqua RA 2	37	104.1	10	10
North Harmony, Chautauqua RA 2	39	19.1	41	12
North Harmony, Chautauqua RA 2	41	16.8	45	33
North Harmony, Chautauqua RA 2	42	45.1	61	32
North Harmony, Chautauqua RA 2	45	6.2	32	32
North Harmony, Chautauqua RA 2	47	25.0	41	12
North Harmony, Chautauqua RA 2	48	26.0	10	10
North Harmony, Chautauqua RA 2	52	15.5	15	15
North Harmony, Chautauqua RA 2	53	6.9	32	32
North Harmony, Chautauqua RA 2	57	17.4	54	32
North Harmony, Chautauqua RA 2	58	52	70	12
North Harmony, Chautauqua RA 2	59	40.9	10	10
North Harmony, Chautauqua RA 2	60	26.5	10	10
North Harmony, Chautauqua RA 2	63	7.8	20	11
North Harmony, Chautauqua RA 2	64.1	20	32	32
North Harmony, Chautauqua RA 2	64.2	29	32	32
North Harmony, Chautauqua RA 2	68	3.9	32	32
North Harmony, Chautauqua RA 2	69	6.1	45	33
North Harmony, Chautauqua RA 2	72	5	45	33

***Table III.H. - Stands without Scheduled Management within 10 Years* (by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
North Harmony, Chautauqua RA 2	79	4.7	41	41
North Harmony, Chautauqua RA 2	81.2	22.6	32	32
North Harmony, Chautauqua RA 2	82	7.2	32	32
North Harmony, Chautauqua RA 2	84	18.6	32	32
North Harmony, Chautauqua RA 2	86	37.5	40	32
North Harmony, Chautauqua RA 2	87	36.4	10	10
North Harmony, Chautauqua RA 2	88	50.5	45	33
North Harmony, Chautauqua RA 2	89	102.4	10	10
North Harmony, Chautauqua RA 2	90	5	12	12
North Harmony, Chautauqua RA 2	91	58.2	10	10
North Harmony, Chautauqua RA 2	92	18.2	10	10
North Harmony, Chautauqua RA 2	93	41.2	70	12
North Harmony, Chautauqua RA 2	94	19.3	40	32
North Harmony, Chautauqua RA 2	95	16.7	32	32
North Harmony, Chautauqua RA 2	96	7.7	32	32
North Harmony, Chautauqua RA 2	98	21.1	20	20
North Harmony, Chautauqua RA 2	99	8.1	40	32
North Harmony, Chautauqua RA 2	102.2	56.4	10	10
North Harmony, Chautauqua RA 2	105	17.3	10	10
North Harmony, Chautauqua RA 2	106	45.9	10	10
Mount Pleasant, Chautauqua RA 3	1	1.9	54	32
Mount Pleasant, Chautauqua RA 3	2	29.5	42	32
Mount Pleasant, Chautauqua RA 3	4	7.7	32	32
Mount Pleasant, Chautauqua RA 3	5	3.9	32	32
Mount Pleasant, Chautauqua RA 3	8	4.6	32	32
Mount Pleasant, Chautauqua RA 3	10	12.0	54	32
Mount Pleasant, Chautauqua RA 3	13	18.0	42	32
Mount Pleasant, Chautauqua RA 3	14.1	8.6	45	33
Mount Pleasant, Chautauqua RA 3	14.2	32	45	33

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
Mount Pleasant, Chautauqua RA 3	14.3	13.4	97	33
Mount Pleasant, Chautauqua RA 3	16	39.6	32	32
Mount Pleasant, Chautauqua RA 3	24	13.3	11	11
Mount Pleasant, Chautauqua RA 3	26	35.7	32	32
Mount Pleasant, Chautauqua RA 3	27	34.3	32	32
Mount Pleasant, Chautauqua RA 3	40	2.8	54	32
Mount Pleasant, Chautauqua RA 3	41	5.2	32	32
Mount Pleasant, Chautauqua RA 3	47	11.5	98	32
Mount Pleasant, Chautauqua RA 3	49	8.9	98	32
Mount Pleasant, Chautauqua RA 3	50	11.7	99	32
Mount Pleasant, Chautauqua RA 3	52	4.7	32	32
Mount Pleasant, Chautauqua RA 3	54	35.6	32	32
Mount Pleasant, Chautauqua RA 3	56.2	13.6	15	15
Mount Pleasant, Chautauqua RA 3	57	7.4	32	32
Mount Pleasant, Chautauqua RA 3	62	3.7	32	32
Mount Pleasant, Chautauqua RA 3	65	10.7	99	15
Mount Pleasant, Chautauqua RA 3	76	19.0	97	32
Mount Pleasant, Chautauqua RA 3	77	18.7	32	32
Mount Pleasant, Chautauqua RA 3	79	40.6	32	32
Mount Pleasant, Chautauqua RA 3	83	9.0	32	32
Mount Pleasant, Chautauqua RA 3	85	12.1	32	32
Mount Pleasant, Chautauqua RA 3	86	29.1	32	32
Mount Pleasant, Chautauqua RA 3	87	4.4	32	32
Mount Pleasant, Chautauqua RA 3	89	1.7	40	32
Mount Pleasant, Chautauqua RA 3	91	21.3	48	32
Mount Pleasant, Chautauqua RA 3	92	7.4	45	33
Mount Pleasant, Chautauqua RA 3	93	8.1	32	32
Mount Pleasant, Chautauqua RA 3	96	7.7	98	32
Panama, Chautauqua RA 4	4	3.2	32	32
Panama, Chautauqua RA 4	6	14.2	97	32

***Table III.H. - Stands without Scheduled Management within 10 Years* (by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Panama, Chautauqua RA 4	9	16.8	40	32
Panama, Chautauqua RA 4	11	16.2	13	13
Panama, Chautauqua RA 4	17	19.2	10	10
Panama, Chautauqua RA 4	18	34.8	54	32
Panama, Chautauqua RA 4	26	5.8	41	12
Panama, Chautauqua RA 4	29	6.1	32	32
Panama, Chautauqua RA 4	37	32.66	10	10
Panama, Chautauqua RA 4	38	27.5	10	10
Panama, Chautauqua RA 4	40	49.9	10	10
Panama, Chautauqua RA 4	41	8.4	32	32
Panama, Chautauqua RA 4	45	3.6	32	32
Panama, Chautauqua RA 4	46	11.1	41	12
Panama, Chautauqua RA 4	47.1	5.2	97	32
Panama, Chautauqua RA 4	47.2	17.9	40	32
Chautauqua Gorge, Chautauqua 5	9	35.5	32	32
Chautauqua Gorge, Chautauqua 5	12	5.3	32	32
Chautauqua Gorge, Chautauqua 5	18	5.3	32	32
Chautauqua Gorge, Chautauqua 5	19	4	32	32
Chautauqua Gorge, Chautauqua 5	20	3.9	32	32
Chautauqua Gorge, Chautauqua 5	21	3.6	32	32
Chautauqua Gorge, Chautauqua 5	22	15.1	32	32
Stockton, Chautauqua RA 6	6	14.60	32	32
Stockton, Chautauqua RA 6	7.2	25.90	32	32
Stockton, Chautauqua RA 6	10	29.60	32	32
Stockton, Chautauqua RA 6	11	32.80	32	32
Stockton, Chautauqua RA 6	12	4.00	68	32
Stockton, Chautauqua RA 6	13.1	20.60	99	32
Stockton, Chautauqua RA 6	13.2	0.70	32	32
Stockton, Chautauqua RA 6	14	15.30	45	32

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
Stockton, Chautauqua RA 6	15	23.00	26	32
Stockton, Chautauqua RA 6	17	24.80	32	32
Stockton, Chautauqua RA 6	19	24.00	32	32
Stockton, Chautauqua RA 6	20	10.20	32	32
Stockton, Chautauqua RA 6	22	4.80	68	32
Stockton, Chautauqua RA 6	26	4.30	32	32
Stockton, Chautauqua RA 6	28	15.80	32	32
Boutwell Hill, Chautauqua RA 7	1	7.8	32	32
Boutwell Hill, Chautauqua RA 7	2	15.6	32	32
Boutwell Hill, Chautauqua RA 7	3	67.1	10	10
Boutwell Hill, Chautauqua RA 7	4	11	32	32
Boutwell Hill, Chautauqua RA 7	9	3.6	45	13
Boutwell Hill, Chautauqua RA 7	11	17.7	32	32
Boutwell Hill, Chautauqua RA 7	12	34.3	10	10
Boutwell Hill, Chautauqua RA 7	13	23.7	32	32
Boutwell Hill, Chautauqua RA 7	14	89.4	10	10
Boutwell Hill, Chautauqua RA 7	32	32.6	46	13
Boutwell Hill, Chautauqua RA 7	33	9.5	32	32
Boutwell Hill, Chautauqua RA 7	35	21.2	70	32
Boutwell Hill, Chautauqua RA 7	37	3.7	32	32
Boutwell Hill, Chautauqua RA 7	43	5.6	32	32
Boutwell Hill, Chautauqua RA 7	45	9.4	42	32
Boutwell Hill, Chautauqua RA 7	49	37.9	32	32
Boutwell Hill, Chautauqua RA 7	50	10.5	32	32
Brokenstraw, Chautauqua RA 8	3	12.8	54	32
Brokenstraw, Chautauqua RA 8	5	25.5	97	32
Brokenstraw, Chautauqua RA 8	8	8.0	32	32
Brokenstraw, Chautauqua RA 8	9	13.9	54	32
Brokenstraw, Chautauqua RA 8	10	12.4	47	32
Brokenstraw, Chautauqua RA 8	12	26.6	10	10

***Table III.H. - Stands without Scheduled Management within 10 Years* (by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Brokenstraw, Chautauqua RA 8	16	17.4	45	33
Brokenstraw, Chautauqua RA 8	19	11.5	71	33
Brokenstraw, Chautauqua RA 8	22	13.7	32	32
Brokenstraw, Chautauqua RA 8	23	23.1	32	32
Brokenstraw, Chautauqua RA 8	28	4.3	32	32
Brokenstraw, Chautauqua RA 8	39	5.3	47	32
Brokenstraw, Chautauqua RA 8	42	47.0	10	10
Brokenstraw, Chautauqua RA 8	43	23.6	10	10
Brokenstraw, Chautauqua RA 8	44	21.6	15	15
Harris Hill, Chautauqua RA 9	A-1	26.9	41	12
Harris Hill, Chautauqua RA 9	A-2	56.7	61	32
Harris Hill, Chautauqua RA 9	A-6	7.9	46	33
Harris Hill, Chautauqua RA 9	A-11	1.4	41	13
Harris Hill, Chautauqua RA 9	A-12.1	26.3	32	32
Harris Hill, Chautauqua RA 9	A-12.2	98.0	10	10
Harris Hill, Chautauqua RA 9	A-13	9.2	32	32
Harris Hill, Chautauqua RA 9	A-15	37.5	10	10
Harris Hill, Chautauqua RA 9	A-17	5.0	32	32
Harris Hill, Chautauqua RA 9	A-18	21.5	10	10
Harris Hill, Chautauqua RA 9	A-19	6.4	32	32
Harris Hill, Chautauqua RA 9	A-22	37.4	71	33
Harris Hill, Chautauqua RA 9	A-24	2.7	32	32
Harris Hill, Chautauqua RA 9	A-27	42.5	46	33
Harris Hill, Chautauqua RA 9	A-28	18.8	46	33
Harris Hill, Chautauqua RA 9	B-2	5.5	32	32
Harris Hill, Chautauqua RA 9	B-8	6.7	32	32
Harris Hill, Chautauqua RA 9	B-9	5.0	32	32
Harris Hill, Chautauqua RA 9	B-11	59.4	10	10
Harris Hill, Chautauqua RA 9	B-14	18.6	46	33

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
Harris Hill, Chautauqua RA 9	C-1	28.7	10	10
Harris Hill, Chautauqua RA 9	C-2	13.5	45	33
Harris Hill, Chautauqua RA 9	C-3.1	1.4	32	32
Harris Hill, Chautauqua RA 9	C-4	4.1	32	32
Harris Hill, Chautauqua RA 9	C-5	4.9	45	33
Harris Hill, Chautauqua RA 9	C-7.1	4.2	32	32
Harris Hill, Chautauqua RA 9	C-7.2	31.9	10	10
Hatch Creek, Chautauqua RA 10	1	16.8	32	32
Hatch Creek, Chautauqua RA 10	4	6.6	11	11
Hatch Creek, Chautauqua RA 10	6	57.	10	10
Hatch Creek, Chautauqua RA 10	8	30.9	97	10
Hatch Creek, Chautauqua RA 10	9	10.9	97	10
Hatch Creek, Chautauqua RA 10	12	27.6	40	32
Hatch Creek, Chautauqua RA 10	13	11.2	32	32
Hatch Creek, Chautauqua RA 10	15	7.2	32	32
Hatch Creek, Chautauqua RA 10	18	18.6	40	32
Hatch Creek, Chautauqua RA 10	20	2.1	54	32
Hatch Creek, Chautauqua RA 10	21	15.0	32	32
Hatch Creek, Chautauqua RA 10	25	14.4	97	10
Hatch Creek, Chautauqua RA 10	26	30.6	45	33
Hatch Creek, Chautauqua RA 10	27	8.8	40	32
Hatch Creek, Chautauqua RA 10	28	30.5	15	15
Hatch Creek, Chautauqua RA 10	29	10.4	97	10
Hatch Creek, Chautauqua RA 10	20	5.8	97	10
Hatch Creek, Chautauqua RA 10	32.3	40.1	41	12
Hatch Creek, Chautauqua RA 10	34	24.4	47	32
Hatch Creek, Chautauqua RA 10	36	10.9	42	32
Hatch Creek, Chautauqua RA 10	37	27.	99	32
Hatch Creek, Chautauqua RA 10	39	4.0	32	32
Hatch Creek, Chautauqua RA 10	40	8.4	32	32

Table III.H. - Stands without Scheduled Management within 10 Years **(by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Hatch Creek, Chautauqua RA 10	41	36.0	10	10
Hatch Creek, Chautauqua RA 10	43	3.3	54	32
Hatch Creek, Chautauqua RA 10	44	27.3	10	10
Hatch Creek, Chautauqua RA 10	46	48.5	41	12
Hatch Creek, Chautauqua RA 10	47.1	9.5	45	33
Hatch Creek, Chautauqua RA 10	47.2	28.9	45	33
Hatch Creek, Chautauqua RA 10	48	11.6	70	32
Hatch Creek, Chautauqua RA 10	50	4.1	32	32
Hatch Creek, Chautauqua RA 10	51	9.2	47	32
Hatch Creek, Chautauqua RA 10	52	7.8	32	32
Hatch Creek, Chautauqua RA 10	54	8.6	32	32
Hatch Creek, Chautauqua RA 10	58	5.5	42	32
Hatch Creek, Chautauqua RA 10	59	11.1	32	32
Hatch Creek, Chautauqua RA 10	60.2	16.6	32	32
Whalen Memorial, Chautauqua RA 11	3	24.4	42	32
Whalen Memorial, Chautauqua RA 11	5	1.8	46	13
Whalen Memorial, Chautauqua RA 11	6	1.9	32	32
Whalen Memorial, Chautauqua RA 11	7	3.7	99	32
Whalen Memorial, Chautauqua RA 11	8	48.2	46	13
Whalen Memorial, Chautauqua RA 11	9	1.7	99	32
Whalen Memorial, Chautauqua RA 11	10	9.0	32	32
Whalen Memorial, Chautauqua RA 11	11	8.2	32	32
Whalen Memorial, Chautauqua RA 11	16	3.5	45	33
Whalen Memorial, Chautauqua RA 11	19.1	4.6	46	13
Whalen Memorial, Chautauqua RA 11	19.2	8.0	42	32
Whalen Memorial, Chautauqua RA 11	22	2.5	32	32
Whalen Memorial, Chautauqua RA 11	24	2.4	32	32
Whalen Memorial, Chautauqua RA 11	25	14.7	42	32
Whalen Memorial, Chautauqua RA 11	26	2.6	46	13

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
Whalen Memorial, Chautauqua RA 11	30	6.0	32	32
Whalen Memorial, Chautauqua RA 11	31.1	8.45	32	32
Whalen Memorial, Chautauqua RA 11	32	28.9	32	32
Whalen Memorial, Chautauqua RA 11	37	17.8	15	15
Whalen Memorial, Chautauqua RA 11	42.1	19.1	32	32
Whalen Memorial, Chautauqua RA 11	42.2	94.4	10	10
Whalen Memorial, Chautauqua RA 11	44.0	19.9	32	32
Whalen Memorial, Chautauqua RA 11	46	3.5	10	10
Whalen Memorial, Chautauqua RA 11	47	18.9	11	11
Whalen Memorial, Chautauqua RA 11	48	22.2	32	32
Whalen Memorial, Chautauqua RA 11	50.1	3.9	45	33
Whalen Memorial, Chautauqua RA 11	50.2	8.4	47	32
Whalen Memorial, Chautauqua RA 11	51	4	32	32
Whalen Memorial, Chautauqua RA 11	52	19.5	45	33
Whalen Memorial, Chautauqua RA 11	54	10.6	46	13
Whalen Memorial, Chautauqua RA 11	55	3.3	32	32
Whalen Memorial, Chautauqua RA 11	58.1	18.6	70	32
Whalen Memorial, Chautauqua RA 11	58.2	33.5	10	10
Whalen Memorial, Chautauqua RA 11	62	33.3	61	32
Whalen Memorial, Chautauqua RA 11	64	14.6	32	32
Whalen Memorial, Chautauqua RA 11	65	4.3	45	33
Whalen Memorial, Chautauqua RA 11	66	2.1	32	32
Whalen Memorial, Chautauqua RA 11	67	3.5	32	32
Whalen Memorial, Chautauqua RA 11	68	44.4	45	33
Whalen Memorial, Chautauqua RA 11	69	8.9	32	32
Whalen Memorial, Chautauqua RA 11	71	10.5	32	32
Whalen Memorial, Chautauqua RA 11	73	1.5	68	32
Whalen Memorial, Chautauqua RA 11	75	1.8	32	32
Whalen Memorial, Chautauqua RA 11	78	19.6	32	32
Whalen Memorial, Chautauqua RA 11	81	2.4	32	32

Table III.H. - Stands without Scheduled Management within 10 Years **(by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Whalen Memorial, Chautauqua RA 11	82	11.9	32	32
Harris Hill, Chautauqua RA 12	1.1	4.4	32	32
Harris Hill, Chautauqua RA 12	1.2	10.4	32	32
Harris Hill, Chautauqua RA 12	2	7.9	32	32
Harris Hill, Chautauqua RA 12	3	27.9	10	10
Harris Hill, Chautauqua RA 12	4	17.7	46	13
Harris Hill, Chautauqua RA 12	5.2	32.8	10	10
Harris Hill, Chautauqua RA 12	7.1	12.8	99	32
Harris Hill, Chautauqua RA 12	7.2	31.0	10	10
Harris Hill, Chautauqua RA 12	8	23.0	46	13
Harris Hill, Chautauqua RA 12	9	2.3	45	33
Harris Hill, Chautauqua RA 12	10	20.1	47	32
Harris Hill, Chautauqua RA 12	11	13.6	48	32
Harris Hill, Chautauqua RA 12	12	1.3	54	32
Harris Hill, Chautauqua RA 12	13	25.4	46	13
Harris Hill, Chautauqua RA 12	14	3.2	32	32
Harris Hill, Chautauqua RA 12	15	12.9	32	32
Harris Hill, Chautauqua RA 12	17	33.9	10	10
Harris Hill, Chautauqua RA 12	18	21.9	10	10
Harris Hill, Chautauqua RA 12	19	2.6	40	32
Harris Hill, Chautauqua RA 12	20	15.5	42	32
Harris Hill, Chautauqua RA 12	21	30.3	10	10
Harris Hill, Chautauqua RA 12	27	52.1	46	13
Harris Hill, Chautauqua RA 12	29	109.1	10	10
Harris Hill, Chautauqua RA 12	30	4.9	32	32
Harris Hill, Chautauqua RA 12	31	20.5	10	10
Harris Hill, Chautauqua RA 12	32	25.6	10	10
Harris Hill, Chautauqua RA 12	33	24.4	32	32
Harris Hill, Chautauqua RA 12	35	15.1	10	10

Table III.H. - Stands without Scheduled Management within 10 Years (by State Forest)				
State Forests	Stand	Acres	Forest Type	
			Current	Future
Harris Hill, Chautauqua RA 12	36	23.6	45	33
Harris Hill, Chautauqua RA 12	37	24.8	42	32
Harris Hill, Chautauqua RA 12	38	28.2	42	32
Harris Hill, Chautauqua RA 12	39	11.6	10	10
Harris Hill, Chautauqua RA 12	40	68.1	43	32
Harris Hill, Chautauqua RA 12	41	4.1	99	32
Harris Hill, Chautauqua RA 12	42	5.0	32	32
Harris Hill, Chautauqua RA 12	43	23.2	47	32
Harris Hill, Chautauqua RA 12	44	61.4	10	10
Harris Hill, Chautauqua RA 12	45	32.2	14	10
Hill Higher, Chautauqua RA 13	1	9.4	32	32
Hill Higher, Chautauqua RA 13	5	9.4	32	32
Hill Higher, Chautauqua RA 13	11	20.1	10	10
Hill Higher, Chautauqua RA 13	14	13.6	45	33
Hill Higher, Chautauqua RA 13	15	6.3	32	32
Hill Higher, Chautauqua RA 13	16	2.3	32	32
Hill Higher, Chautauqua RA 13	17	11.0	32	32
Hill Higher, Chautauqua RA 13	18	19	46	13
Hill Higher, Chautauqua RA 13	20	19.5	15	15
Hill Higher, Chautauqua RA 13	21	78.9	10	10
Hill Higher, Chautauqua RA 13	23	1.3	32	32
Hill Higher, Chautauqua RA 13	24	4.9	32	32
Hill Higher, Chautauqua RA 13	25	10.3	32	32
Hill Higher, Chautauqua RA 13	26.1	31.1	10	10
Hill Higher, Chautauqua RA 13	26.2	73.7	40	32
Hill Higher, Chautauqua RA 13	27	22.3	32	32
Hill Higher, Chautauqua RA 13	28.1	19.3	97	10
Hill Higher, Chautauqua RA 13	28.2	57.7	10	10
Hill Higher, Chautauqua RA 13	28.3	37.3	32	32
Hill Higher, Chautauqua RA 13	29	6.4	32	32

***Table III.H. - Stands without Scheduled Management within 10 Years* (by State Forest)**

State Forests	Stand	Acres	Forest Type	
			Current	Future
Hill Higher, Chautauqua RA 13	31	8.2	54	32
Hill Higher, Chautauqua RA 13	32	23.4	10	10
Hill Higher, Chautauqua RA 13	33	2.6	32	32
Hill Higher, Chautauqua RA 13	34	2.5	32	32
Hill Higher, Chautauqua RA 13	35.1	23.8	97	10
Hill Higher, Chautauqua RA 13	37.1	20.9	10	10
Hill Higher, Chautauqua RA 13	41	16.9	32	32
Hill Higher, Chautauqua RA 13	51	3.9	32	32
Wellman, Chautauqua MUA 14	1	14.7	32	32
Wellman, Chautauqua MUA 14	2	16.1	48	32
Wellman, Chautauqua MUA 14	3	5.4	32	32
Wellman, Chautauqua MUA 14	4	2.1	45	33
Wellman, Chautauqua MUA 14	5.1	7.2	71	33
Wellman, Chautauqua MUA 14	5.3	35.7	14	10
Wellman, Chautauqua MUA 14	8	85.0	10	10
Wellman, Chautauqua MUA 14	9	10.6	98	13
Wellman, Chautauqua MUA 14	11	15.9	32	32
Wellman, Chautauqua MUA 14	12	2.1	41	12
Wellman, Chautauqua MUA 14	13	2.7	32	32
Wellman, Chautauqua MUA 14	14	12.3	42	32
Wellman, Chautauqua MUA 14	15	8.7	32	32
Wellman, Chautauqua MUA 14	17	60.9	10	10
Wellman, Chautauqua MUA 14	19	3.0	32	32
Wellman, Chautauqua MUA 14	20	30.4	45	33
Wellman, Chautauqua MUA 14	22	2.5	32	32
Wellman, Chautauqua MUA 14	24	4.5	32	32

Table III.I.- Natural Areas (by State Forest)			
State Forests	**Stand**	**Acres**	**Forest Type**
Boutwell Hill, Chautauqua RA 1	8	6.4	11
Boutwell Hill, Chautauqua RA 1	12	7.9	32
Boutwell Hill, Chautauqua RA 1	17	10.9	Ponds
Boutwell Hill, Chautauqua RA 1	28	13.2	11
Boutwell Hill, Chautauqua RA 1	31	2.9	Swamp
Boutwell Hill, Chautauqua RA 1	39.2	10.7	Riparian
North Harmony, Chautauqua RA 2	7	1.8	99 - Alder
North Harmony, Chautauqua RA 2	25	13.2	Goose Creek
North Harmony, Chautauqua RA 2	40	23.7	Pond
North Harmony, Chautauqua RA 2	44	24.2	11
North Harmony, Chautauqua RA 2	46	24.4	11
North Harmony, Chautauqua RA 2	65	5.7	99
North Harmony, Chautauqua RA 2	70	5.7	11
North Harmony, Chautauqua RA 2	71	33	Pond
North Harmony, Chautauqua RA 2	75	13	99
North Harmony, Chautauqua RA 2	77	5	Pond
Mount Pleasant, Chautauqua RA 3	8	15.6	99
Mount Pleasant, Chautauqua RA 3	32	15.3	99
Mount Pleasant, Chautauqua RA 3	34	3.4	99
Mount Pleasant, Chautauqua RA 3	55	3.1	99
Mount Pleasant, Chautauqua RA 3	72	.8	Pond
Mount Pleasant, Chautauqua RA 3	82	6.7	Pond
Mount Pleasant, Chautauqua RA 3	84	16.6	99
Mount Pleasant, Chautauqua RA 3	88	10.8	Pond
Mount Pleasant, Chautauqua RA 3	90	11.9	99
Panama, Chautauqua RA 4	20.1	11.9	32
Panama, Chautauqua RA 4	21	3	99
Chautauqua Gorge, Chautauqua RA 5	1	102	99
Chautauqua Gorge, Chautauqua RA 5	3.1	6.1	47

Table III.I.- Natural Areas (by State Forest)			
State Forests	**Stand**	**Acres**	**Forest Type**
Chautauqua Gorge, Chautauqua RA 5	8.22	15.1	20
Chautauqua Gorge, Chautauqua RA 5	25	5.2	32
Chautauqua Gorge, Chautauqua RA 5	26	11.5	32
Stockton, Chautauqua RA 6	2	6.8	20
Stockton, Chautauqua RA 6	5	3.4	15
Stockton, Chautauqua RA 6	4	11.5	99
Stockton, Chautauqua RA 6	8	8.1	99
Boutwell Hill, Chautauqua RA 7	17.1	32.6	20
Boutwell Hill, Chautauqua RA 7	34	14.5	99
Brokenstraw, Chautauqua RA 8	2	23.6	99
Brokenstraw, Chautauqua RA 8	18	13.2	99
Brokenstraw, Chautauqua RA 8	20	4.1	99
Brokenstraw, Chautauqua RA 8	31	13.5	99
Brokenstraw, Chautauqua RA 8	33	8	11
Brokenstraw, Chautauqua RA 8	34	21.7	99
Brokenstraw, Chautauqua RA 8	35	36.8	11
Brokenstraw, Chautauqua RA 8	38	9.5	99
Harris Hill Chautauqua RA 9 Comp 1	10	119.1	31
Harris Hill Chautauqua RA 9 Comp 1	23	8.2	99
Harris Hill Chautauqua RA 9 Comp 2	7	9.3	54
Harris Hill Chautauqua RA 9 Comp 3	8	7.1	32
Hatch Creek, Chautauqua RA 10	16	21.8	11
Hatch Creek, Chautauqua RA 10	31.1	3.5	32
Hatch Creek, Chautauqua RA 10	32.1	2.4	41
Hatch Creek, Chautauqua RA 10	35	14.6	32
Hatch Creek, Chautauqua RA 10	38.1	4.9	10
Hatch Creek, Chautauqua RA 10	57	7.0	32
Hatch Creek, Chautauqua RA 10	60.1	4.6	32
Hatch Creek, Chautauqua RA 10	64.1	3.3	10

Table III.I.- Natural Areas (by State Forest)			
State Forests	**Stand**	**Acres**	**Forest Type**
Whalen Memorial, Chautauqua RA 11	18.1	10.2	32
Whalen Memorial, Chautauqua RA 11	20	3.6	99
Whalen Memorial, Chautauqua RA 11	27	3.9	32
Whalen Memorial, Chautauqua RA 11	29	11.9	99
Whalen Memorial, Chautauqua RA 11	33	3.3	41
Whalen Memorial, Chautauqua RA 11	34	1.1	32
Whalen Memorial, Chautauqua RA 11	57	23.3	99
Whalen Memorial, Chautauqua RA 11	70	6.9	99
Whalen Memorial, Chautauqua RA 11	77	3.1	32
Harris Hill, Chautauqua RA 12	5.1	5.8	32
Harris Hill, Chautauqua RA 12	24	32.5	32
Harris Hill, Chautauqua RA 12	34	15.5	42
Hill Higher, Chautauqua RA 13	30	2.0	99
Wellman, Chautauqua MUA 14	5.2	6.4	99
Wellman, Chautauqua MUA 14	25	2.9	99
	Total Acres	986.2	

GLOSSARY OF TERMS

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)

Apple tree release - a management action; the act of removing an overstory of trees and/or competing vegetation that are shading and potentially inhibiting apple tree growth and fruit production. (F)

Ash decline - the progressive loss of vigor and health causing the death of ash trees by a combination of factors. Some factors may include diseases, poor soil/sites, cankers, insects, winter injury or drought. (F)

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)

Beech bark disease - a insect and disease pathogen complex involving a scale insect (*Cryptococcus fagi*) and a nectria fungus (*Nectria coccinea* var. *faginata*). The insect pierces the bark to feed, allowing a place for the fungus to enter the tree. Fungal activity interrupts the tree's normal physiological processes and a severely infected tree will most likely die. (F)

Best Management Practices (BMP's) - a practice or combination of practices that are designed for the protection of water quality of water bodies and riparian areas, are 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)

Blowdown - tree or trees tipped over or broken off by wind. (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)

Climax forest - an ecological community that represents the culminating stage of a natural forest succession for its locality / environment. (D)

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. *see* **low forest** (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)

Defoliation - the partial or complete loss of leaves or needles, usually caused by an insect, disease or drought. (F)

Den tree - a tree containing an excavation sufficiently large for nesting, dens or shelter; tree may be alive or dead. (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 an 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. Eco-regions 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 - This is an appropriate integration of ecological, economic, and social factors that 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)

Edge - the more or less well-defined boundary between two or more elements of the environment, e.g., a field next to a woodland or the boundary of different silvicultural treatments. (D)

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)

Flood plain - the level; or nearly level land with alluvial soils on either or both sides of a stream or river that is subject to overflow flooding during periods of high water level. (D)

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 Stand Improvement (FSI) - pre-commercial silvicultural treatments, intended to regulate stand density and species composition while improving wood product quality and fostering individual tree health and vigor, through the removal of undesirable trees. (F)

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 – pertains to communities, habitats, successional stages, or organisms, which have been identified as lacking in landscape. (F)

Geocaching - an outdoor activity, 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)

High canopy forest area - a portion of a State Forest that will be dedicated to establishing and maintaining forest stands with high canopy cover. The areas will be created to provide habitat for wildlife species that require mature forests. These areas will be strategically managed using

uneven-aged management systems. Management will be predominately single tree selection. Group selection may also be done on a limited basis to regenerate mast producing trees like oak, cherry and hickory. The areas will be managed to limit the size of forest canopy openings to no greater than ½ acre in size. Management will include variable patch retention areas, (which will include protection areas and natural areas), retention of biological legacy trees, den trees, snags and course woody material. (F)

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)

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)

Log landing - a cleared area to which logs are skidded and are temporarily stored before being loaded onto trucks for transport. (F)

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)

Low forest - a forest produced primarily from vegetative regeneration, i.e. coppice. (D)

Mast - all fruits of trees and shrubs used as food for wildlife. Hard mast includes nut-like fruits such as acorns, beechnuts and chestnuts. Soft mast includes the fleshy fruits of black cherry, dogwood and serviceberry. (A)

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. (O)

Mesic - of sites or habitats characterized by intermediate moisture conditions; i.e., neither decidedly wet nor dry. (O)

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

Multiple Use Area - Lands acquired pursuant to Article 15, Section 15.01 (b) of the Parks and Recreation Land Acquisition Bond Act. Multiple Use Areas are acquired to provide additional opportunities for outdoor recreation, including public camping, fishing, hunting, boating, winter sports, and, wherever possible, to also serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry and reforestation. (F)

Native species - indigenous species that is normally found as part of a particular ecosystem. (D)

Natural area(s) - an area allowed to develop naturally; intervention will be considered to protect forest health (e.g. fire or invasive plant or animal invasive species), to enhance structural or species diversity, to protect, restore or enhance significant habitats or to exploit or create regeneration opportunities for desired plant species. (O)

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 and
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)

Organic matter – carbon rich material derived from living organisms. (M)

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)

Pioneer - a plant capable of invading bare sites (newly exposed soil) and persisting there or colonizing them until supplanted by successional species. (D)

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, surface disturbance related to oil and gas

exploration and development, and some recreational activities. These sites most often include steep slopes, wet woodlands and riparian zones along stream corridors. (F)

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)

Quality Deer Management (QDM) - is a management philosophy/practice that unites landowners, hunters and managers in a common goal of producing biologically and socially balanced deer herds within existing environmental, social and legal constraints. This approach typically involves the protection of young bucks, (yearlings & some 2.5 year-old), combined with an adequate harvest of female deer to maintain a healthy population in balance with existing habitat conditions and landowner desires. This level of deer management involves the production of quality deer (bucks, does & fawns), quality habitat, quality hunting experiences and most importantly quality hunters. (L)

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)

Salvage cutting - the removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost. (D)

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)

Sedimentary rock - is a type of rock that is formed by sedimentation of material at the Earth's surface and within bodies of water. (N)

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)

Site preparation - hand or mechanized manipulation of a site, designed to enhance the success of regeneration. (D)

Skid trail - a temporary or permanent trail used to skid or forward felled trees from the stumps to the log landing. (F)

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)

Spatial analysis - an examination of data in the context of where it occurs geographically or "on the ground". This is usually accomplished by tying database information to GIS based maps. (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)

Species richness - the number of different species present within a defined area. (A)

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)

Stand analysis - systematic method of evaluating stands to determine the need for treatment. (F)

Stand structure - the horizontal and vertical distribution of components of a forest stand including the height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, snags, and down woody material. (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 (Title 3 Article 9-0303 ECL). (F)

Stocking - the number of trees per unit area in relation to the desired number for optimum growth and management. Guides and tables have been developed that illustrate the optimum number of trees per acre based on the average diameter. (F)

Succession - the natural series of replacements of one plant community (and the associated fauna) by another over time and in the absence of disturbance. (A)

Suite - species similar in their habitat needs which may respond similarly to habitat changes. (A)

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)

Sustained yield - the achievement and maintenance in perpetuity of a reasonable regular periodic output of the various renewable resources without impairment of the land's productivity. (B)

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 Design - Universal design 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. (D)

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APPENDICES & FIGURES

APPENDIX A - SUMMARY OF COMMENTS AND DEPARTMENT RESPONSES FOR THE CHAUTAUQUA MANAGEMENT UNIT

Public Use and Recreation Comments

Comment: **Increase the number of horse trails in the state lands of Chautauqua County. (15 comments)**

Response: Horse trails have been developed on Boutwell Hill and North Harmony State Forests. As conditions permit, additional trails will be considered at other State Forests.

Comment: **Don't allow ATV's or motorized recreational vehicles in any plan.**

Response: ATVs are authorized for use on designated haul roads for people with disabilities based when they hold proper permitting based on Commissioners Policy 3(CP-3). Beyond the CP-3 use ATVs could potentially have a connecting trail if it joins two existing trails on private land. Any trail that is developed will have to be built in a sustainable manner and would be built with the purpose of connecting one point with another.

Comment**:** **Keep the snowmobiles away from the county lean-to on Mount Pleasant State Forest.**

Response: The snowmobile trail will be eventually be redirected to the forest road north of the lean-to when a timber sale can be completed.

Land Management Comments

Comment**:** **Local DEC forestry staff needs to be supported / built up to insure implementation of this plan**.

Response: The Staffing situation is improving after adding a forester to cover our private lands forestry needs in fall of 2012. This will ensure one forester will be dedicated entirely to State forest management.

Comment: **Logging is the emphasis with little regard for the forest birds.**

Response: When planning timber sales, effects on plant and wildlife species are considered. Pertaining to forest birds, research has shown the additional forest edge caused by clear cutting does not negatively affect forest birds as it does on forest edge created by agriculture. Forest birds need a variety of cover types but generally stay in the more heavily forested areas until the trees grow larger in 10 to

15 years. Locally in Chautauqua County, pioneer forest is diminishing, causing a decline in the amount of grouse and woodcock.

Comment: **Many of these state properties should be logged extensively to improve hunting conditions**.

Response: There are many stands that require harvesting in the near future. Stands will be treated with emphasis on improving the quality of the timberlands along with improving the overall wildlife habitat. Many factors are taken into consideration in harvest planning.

Comment: C**onsider horse logging specifications for harvest or thinning operations as a method of reducing environmental impact**.

Response: Environmental impact is a consideration in planning each of the timber sales on state forest. Best Management practices are followed on every sale to mitigate any damage to the forest trees soil and streams. Horse logging has been used and is under consideration for future timber sales. The sales do not exclude loggers using horses in the bid process, though there are likely to be restrictions for harvesters using large equipment that may leave lasting effects.

Comment: **Stand prescriptions should for the most part be Harvest and Regenerate**.

Response: Unfortunately a standardized prescription will not work for all stands so every stand will be evaluated on a case by case basis. Not all treatments will necessarily be regeneration cuts if markets exist for intermediate thinnings or if treatments need to be done to remove undesirable species.

APPENDIX C - STATE ENVIRONMENTAL QUALITY REVIEW (SEQR)

STATE ENVIRONMENTAL QUALITY REVIEW ACT

(The following text to be included in individual Unit Management Plans)

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 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 D - Breeding Bird Atlas

Common Name	*Scientific Name*	NY Legal Status	Blocks	
Acadian Flycatcher	*Empidonax virescens*	Protected	1266A ,C & D, 1267C, 1369C, 1469B	**PRO**
Alder Flycatcher	*Empidinax alnorum*	Protected	1167D, 1168B, 1266D, 1267C, 1365A, 1366C, 1368B, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
American Crow	*Corvus brachyrhynchos*	Game Spec.	1166B & D, 1167B & D, 1168B & D, 1266A, 1266C, & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
American Goldfinch	*Spinus tristis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A, C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
American Kestrel	*Falco sparverius*	Protected	1167B & D, 1168B & D, 1266A & D, 1267A, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B, 1469B & D, 1569A	**PRO**
American Redstart	*Setophaga ruticilla*	Protected	1166B & D, 1167B & D, 1168B, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
American Robin	*Turdus migratorius*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
American Woodcock	*Scolopax minor*	Game Spec.	1168B & D, 1266A & D, 1267A, 1366C, 1368A & B, 1369C, 1469D, 1569A	**PRO**
Bald Eagle	*Haliaeetus leucocephalus*	Threatened	1266D	**POS**
Baltimore Oriole	*Icterusgalbula*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1268C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Bank Swallow	*Riparia riparia*	Protected	1167B, 1168B, 1267C, 1369C, 1468B	**POS**
Barn Swallow	*Hirundo rustica*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Barred Owl	*Strix varia*	Protected	1168B, 1266A & D, 1268C, 1366C, 1368A, 1469D	**PRO**
Belted Kingfisher	*Megaceryle alcyon*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B, 1568A & C	**CON**
Black-and-White Warbler	*Mniotilta varia*	Protected	1368A & B	**POS**
Blackburian Warbler	*Dendroica fusca*	Protected	1167B & D, 1168B, 1266C & D, 1267C, 1268C, 1368B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569C	**PRO**
Black-Capped Chickadee	*Poecile atricapillus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Black-Throated Blue Warbler	*Dendroica caerulescens*	Protected	1266A, 1366C	**POS**
Black-Throated Green Warbler	*Dendroica virens*	Protected	1166B & D, 1266A,C & D, 1267A & C, 1365A, 1366C, 1368A & B, 1369C, 1468B, 1469B & D, 1568A & C, 1569C	**PRO**
Black-Billed Cuckoo	*Coccyzus erthropthalmus*	Protected	1167B & D, 1168B & D, 1266A & D, 1267C, 1368A, 1468B, 1469D, 1568A, 1569C	**POS**

Blue-Headed Vireo	*Vireo solitaries*	Protected	1167B & D, 1266A,C & D, 1267C, 1268C, 1366C, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Blue Jay	*Cyanocitta cristata*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Blue-Winged Teal	*Anas discors*	Game Spec.	1166B & D, 1266D	**POS**
Blue-Winged Warbler	*Vermivora pinus*	Protected	1166B & D, 1167B & D, 1266A & D, 1268C, 1366C, 1369C, 1468D, 1469B, 1568C, 1569C	**PRO**
Bobolink	*Dolichonyx oryzivorus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Brewster's Warbler	*Vermivora pinus x V. chrysoptera*	Protected	1369C, 1568C	**PRO**
Broad-Winged Hawk	*Buteo platypterus*	Protected	1168B & D, 1266A & D, 1267C, 1366C, 1369C, 1468B & D, 1469B, 1568A & C	**PRO**
Brown Creeper	*Certhia americana*	Protected	1167B & D, 1168B & D, 1266C & D, 1267C, 1268C, 1366C, 1368A & B, 1369C, 1469D, 1568A & C, 1569C	**CON**
Brown-Headed Cowbird	*Molothrus ater*	Protected	1166B & D, 1167D, 1168B & D, 1266D, 1267A, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Brown Thrasher	*Toxostoma rufum*	Protected	1167D, 1168B & D, 1266C & D, 1468B, 1469B, 1568A	**PRO**
Canada Goose	*Branta canadensis*	Game Spec.	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1568A & C,1569A & C	**CON**
Canada Warbler	*Wilsonia canadensis*	Protected	1168B & D, 1266D, 1366C	**PRO**
Carolina Wren	*Thryothorus ludovicianus*	Protected	1266C & D, 1268C	**PRO**
Cedar Waxwing	*Bombycilla cedrorum*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Chestnut-Sided Warbler	*Dendroica pensylvanica*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Chimney Swift	*Chaetura pelagic*	Protected	1167B, 1266D, 1268C, 1366C, 1469D, 1568A	**POS**
Chipping Sparrow	*Spizella passerina*	Protected	1166B & D, 1167B & D, 1168B, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Cliff Swallow	*Petrochelidon pyrrhonota*	Protected	1168D, 1267A, 1369C, 1468B & D, 1469B & D	**POS**
Common Grackle	*Quiscalus quiscula*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Common Raven	*Corvus corax*	Protected	1266A & D, 1368A, 1468B & D, 1469B & D, 1568A & C	**PRO**
Common Yellowthroat	*Geothlypis trichas*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**

Coopers Hawk	*Accipiter cooperii*	Pro. Spec. Con	1168B & D, 1266A & D, 1369C, 1569A	**POS**
Dark-Eyed Junco	*Junco hyemalis*	Protected	1166B & D, 1167D, 1168D, 1266A,C & D, 1267C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569C	**CON**
Downy Woodpecker	*Picoides pubescens*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1268C, 1365A, 1366C, 1368B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Eastern Bluebird	*Sialia sialis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368C, 1468B & D, 1469B, 1568A & C, 1569A & C	**CON**
Eastern Kingbird	*Tyrannus tyrannus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Eastern Meadowlark	*Sturnella magna*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1268C, 1365A, 1366C, 1368B, 1468B & D, 1469B & D, 1569A & C	**PRO**
Eastern Phoebe	*Sayornis phoebe*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Eastern Screech Owl	*Megascops asio*	Protected	1167B, 1168B & D, 1266D, 1468B & D	**POS**
Eastern Towhee	*Pipilo erythrophthalmus*	Protected	1166B & D, 1167B & D, 1168B, 1266A,C & D, 1267A & C, 1268C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Eastern Wood-Pewee	*Contopus virens*	Protected	1166B & D, 1167B & D, 1168D, 1266A & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468D, 1469B & D, 1568A & C, 1569A & C	**POS**
European Starling	*Sturnus vulgaris*	Unprotected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Field Sparrow	*Spizella pusilla*	Protected	1166B & D, 1167D, 1168B, 1266A,C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569C	**CON**
Golden-Crowned Kinglet	*Regulus satrapa*	Protected	1266C & D, 1267C, 1369C, 1469B, 1568A & C, 1569C	**POS**
Grasshopper Sparrow	*Ammodramus savannarum*	Pro. Spec. Con	1368B	**POS**
Gray Catbird	*Dumetella carolinensis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Great Blue Heron	*Ardea herodias*	Protected	1166B & D, 1167B & D, 1168D, 1266A & D, 1267A, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1469B & D, 1568A & C, 1569A & C	**POS**
Great Crested Flycatcher	*Myiarchuscrinitus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266D, 1267A & C, 1268C, 1365A, 1366C, 1368A, 1468B & D, 1469B & D, 1568A & C, 1569C	**POS**
Great Horned Owl	*Bubo virginianus*	Protected	1166B & D, 1168B & D, 1366C, 1468B	**POS**
Green Heron	*Butorides virescens*	Protected	1166B & D, 1167B & D, 1168D, 1266A & D, 1366C, 1468B, 1568A, 1569A & C	**POS**
Hairy Woodpecker	*Picoides villosus*	Protected	1167D, 1168B & D, 1266A & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468D, 1469D, 1568A, 1569A &	**PRO**

			C	
Henslow's Sparrow	*Ammodramus henslowii*	Threatened	1365A	**POS**
Hermit Thrush	*Catharus fuscescens*	Protected	1168D, 1266A,C & D, 1267C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568C, 1569C	**PRO**
Horned Lark	*Eremophila alpestris*	Pro. Spec. Con	1569A	**PRO**
Hooded Merganser	*Lophodytes cucullatus*	Game Species	1166B & D, 1266D, 1366C, 1569C	**CON**
Hooded Warbler	*Wilsonia citrine*	Protected	1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
House Finch	*Carpodacus mexicanus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A, 1268C, 1365A, 1366C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
House Sparrow	*Passer domesticus*	Unprotected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
House Wren	*Troglodytes aedon*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Indigo Bunting	*Passerina cyanea*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Killdeer	*Charadrius vociferus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1365A, 1366C, 1368A & B, 1468B & D, 1469B, 1568A & C, 1569A & C	**PRO**
Least Flycatcher	*Empidonax minimus*	Protected	1167B & D, 1168B & D, 1266A & D, 1267C, 1365A, 1366C, 1369C, 1468D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Louisiana Waterthrush	*Seiurus motacilla*	Protected	1267C	**POS**
Magnolia Warbler	*Dendroica magnolia*	Protected	1167B & D, 1168B & D, 1266C & D, 1267C, 1268C, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569C	**POS**
Mallard	*Anas platyrhynchos*	Game species	1167B & D, 1168B & D, 1266A & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1468B & D, 1469D, 1568C, 1569A	**PRO**
Marsh Wren	*Cistothorus palustris*	Protected	1167B	**PRO**
Mourning Dove	*Zenaida macroura*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Mourning Warbler	*Oporprnis philadelphia*	Protected	1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Nashville Warbler	*Vermivora ruficapilla*	Protected	1266D, 1267C, 1569C	**POS**
Northern Cardinal	*Cardinalis cardinalis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**

Northern Flicker	*Colaptes auratus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Northern Goshawk	*Accipiter gentilis*	Pro. Spec. Con	1166B & D, 1266A, 1267C, 1368A, 1469D	**CON**
Northern Harrier	*Circus cyaneus*	Threatened	1168B, 1266D, 1469B & D, 1569A	**CON**
Northern Parula	*Parula americana*	Protected	1266D	**POS**
Northern Mockingbird	*Mimus polyglottos*	Protected	1168B & D	**CON**
Northern Rough-Winged Swallow	*Stelgidopteryx serripennis*	Protected	1166B & D, 1167B, 1266A & D, 1267A, 1468D & B, 1568A & C, 1569C	**POS**
Northern Waterthrush	*Seiurus noveboracenis*	Protected	1167B, 1168D, 1266D, 1366C	**PRO**
Osprey	*Pandion haliaetus*	Pro. Spec. Con	1266D	**POS**
Ovenbird	*Seiurus aurocapilla*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B 7 D, 1469B 7 D, 1568A & C, 1569A & C	**PRO**
Pied-Billed Grebe	*Podilymbusppodiceps*	Threatened	1266D, 1267C	**CON**
Pileated Woodpecker	*Dryocopus pileatus*	Protected	1167B, 1168B & D, 1266A & D, 1267C, 1365A, 1366C, 1468B & D, 1469B & D, 1568A, 1569C	**POS**
Pine Warbler	*Dendroica pinus*	Protected	1468B	**POS**
Prairie Warbler	*Dendroica discolor*	Protected	1468D, 1568C	**PRO**
Purple Finch	*Carpodacus purpureus*	Protected	1166B & D, 1167B & D, 1266A,C & D, 1366C, 1369C, 1468B & D, 1469D, 1568A & C, 1569A & C	**PRO**
Purple Martin	*Progne subis*	Protected	1168B & D, 1266D, 1267A, 1268C	**CON**
Red-Bellied Woodpecker	*Melanerpes carolinus*	Protected	1268C, 1366C, 1568C	**POS**
Red-Breasted Nuthatch	*Sitta canadensis*	Protected	1167D, 1266A,C & D, 1267C, 1268C, 1368A & B, 1369C, 1468B & D, 1469D, 1568A & C, 1569C	**PRO**
Red-Eyed Vireo	*Vireo olivaceus*	Protected	1166B & D, 1167B & D, 1168B, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Red-Headed Woodpecker	*Melanerpes erythrocephalus*	Pro. Spec. Con	1366C	**POS**
Red Shouldered Hawk	*Buteo lineatus*	Pro. Spec. Con	1167B, 1168B & D, 1266A, 1267C, 1366C, 1368A & B, 1369C, 1469B & D, 1568A & C, 1569C	**PRO**
Red-Tailed Hawk	*Buteo jamaicensis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Red-Winged Blackbird	*Agelaius phoeniceus*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Ring-Necked Pheasant	*Phasianus colchicus*	Game species	1266D, 1366C, 1568C, 1569C	**POS**

Rock Pigeon	*Columba livia*	Unprotected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Rose-Breasted Grosbeak	*Pheucticus ludovicianus*	Protected	1166B & D, 1167B & D, 1168B, 1266A & D, 1267A, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Ruby-Throated Hummingbird	*Archilochus colubris*	Protected	1167B & D, 1168B & D, 1266A & D, 1267A & C, 1268C, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Ruffed Grouse	*Bonasa umbellus*	Game Species	1166B & D, 1168D, 1266A & D, 1267A, 1366C, 1368B, 1468D, 1469B & D	**POS**
Savannah Sparrow	*Passerculus sandwichensis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A, 1268C, 1365A, 1366C, 1369C, 1468B & D, 1469B, 1568A & C, 1569A & C	**CON**
Scarlet Tanager	*Piranga olivacea*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Sharp-Shinned Hawk	*Accipiter striatus*	Pro. Spec. Con	1168B & D, 1266A & D, 1369C, 1469B & D	**POS**
Sora	*Porzana carolina*	Game species	1167B & D, 1266D	**POS**
Song Sparrow	*Melospiza melodia*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Spotted Sandpiper	*Actitis macularius*	Protected	1167B, 1267A & C, 1366C, 1469D	**POS**
Swamp Sparrow	*Melospiza georgiana*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1365A, 1366C, 1368B, 1369C, 1568A, 1569A & C	**PRO**
Tree Swallow	*Tachycineta bicolor*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Tufted Titmouse	*Baeolophus bicolor*	Protected	1166B & D, 1167D, 1168B & D, 1266A & D & C, 1365A, 1366C, 1369C, 1468D, 1568A & C	**PRO**
Turkey Vulture	*Cathartesaaura*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Veery	*Catharus fuscescens*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**POS**
Vesper Sparrow	*Pooecetes gramineus*	Pro. Spec. Con	1266C, 1365A	**PRO**
Virginia Rail	*Rallus limicola*	Game species	1167B	**POS**
Warbling Vireo	*Vireo gilvus*	Protected	1167B & D, 1266D, 1368B, 1468B & D, 1469B, 1568A & C, 1569A & C	**PRO**
White-Breasted Nuthatch	*Sitta carolinensis*	Protected	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A	**PRO**

White-Throated Sparrow	*Zonotrichia albicollis*	Protected	1266D, 1468D, 1569C	**POS**
Wild Turkey	*Meleagris gallopavo*	Game Species	1166B & D, 1167B & D, 1168B & D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C	**CON**
Willow Flycatcher	*Empidonax traillii*	Protected	1166B & D, 1167B & D, 1168B, 1266A,C & D, 1365A, 1366C, 1568A & C, 1569A & C	**PRO**
Wilsons Snipe	*Gallinago delicate*	Game species	1167B, 1168B & D, 1266D, 1368B	**POS**
Winter Wren	*Troglodytes troglodytes*	Protected	1369C, 1468D	**POS**
Wood Duck	*Aix sponsa*	Game Species	1166B & D, 1167B & D, 1266D, 1267C, 1366C, 1368A & B, 1468D, 1569C	**CON**
Wood Thrush	*Hylocichla mustelina*	Protected	1166B & D, 1167B & D, 1168D, 1266A,C & D, 1267A & C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**PRO**
Yellow Bellied Sapsucker	*Sphyrapicus varius*	Protected	1167B, 1168B & D, 1266A & D, 1267C, 1268C, 1366C, 1368A, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569A & C	**CON**
Yellow-Billed Cuckoo	*Coccyzus americanus*	Protected	1167B, 1266A, 1267C, 1366C	**POS**
Yellow-Rumped Warbler	*Dendroica coronate*	Protected	1167B & D, 1266A,C & D, 1267C, 1369C, 1468B & D, 1469B & D, 1568A & C, 1569C	**POS**
Yellow-Throated Vireo	*Vireo flavifrons*	Protected	1266C & D, 1568A	**PRO**
Yellow Warbler	*Dendroica petechia*	Protected	1166B & D, 1167B & D, 1168B, 1266C & D, 1267C, 1268C, 1365A, 1366C, 1368A & B, 1369C, 1468B & D, 1469B, 1568A & C, 1569A & C	**CON**

BBA Status PRO = Probable **CON** = Confirmed **POS** = Possible

APPENDIX E – HERP ATLAS

	Common Name	*Scientific Name*
1	Eastern American Toad	*Bufo a. americanus*
2	Gray Treefrog	*Hyla versicolor*
3	Western Chorus Frog	*Pseudacris triseriata*
4	Bull Frog	*Rana catesbeiana*
5	Green Frog	*Rana clamitans melanota*
6	Wood Frog	*Rana sylvatica*
7	Northern Leopard Frog	*Rana pipiens*
8	Pickerel Frog	Rana palustris
9	Common Mudpuppy	*Necturus maculosus*
10	Spotted Salamander	*Ambystoma maculatum*
11	Red-spotted Newt	Notophthalmus v. viridescens
12	Northern Dusky Salamander	*Desmognathus fuscus*
13	Allegeny Dusky Salamander	*Desmognathus ochrophaeus*
14	Northern Redback Salamander	*Plethodon c. cinereus*
15	Northern Slimy Salamander	*Plethodon glutinosus*
16	Four-toed Salamander	*Hemidactylium scutatum*
17	Northern Spring Salamander	*Gyrinophilus p. porphyriticus*
18	Northern Two-lined Salamander	*Eurycea bislineata*
19	Common Snapping Turtle	*Chelydra s. serpentina*
20	Common Musk Turtle	*Sternotherus odoratus*
21	Eastern Box Turtle	Terrapene c. carolina
22	Painted Turtle	*Chrysemys picta*
23	Eastern Spiny Softshell	*Apalone s. spinifera*
24	Northern Water Snake	Nerodia s. sipedon
25	Northern Brown Snake	*Storeria d. dekayi*
26	Northern Redbelly Snake	Storeria o. occipitomaculata
27	Common Garter Snake	*Thamnophis sirtalis*
28	Shorthead Garter Snake	*Thamnophis brachystoma*
29	Northern Ringneck Snake	*Diadophis punctatus edwardsii*
30	Eastern Milk Snake	Lampropeltis t. triangulum