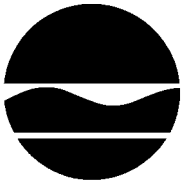
New York State
Department of Environmental Conservation



Division of Lands and Forests

DRAFT
Unit Management Plan for State Forests in Saratoga and Warren Counties

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April 2002

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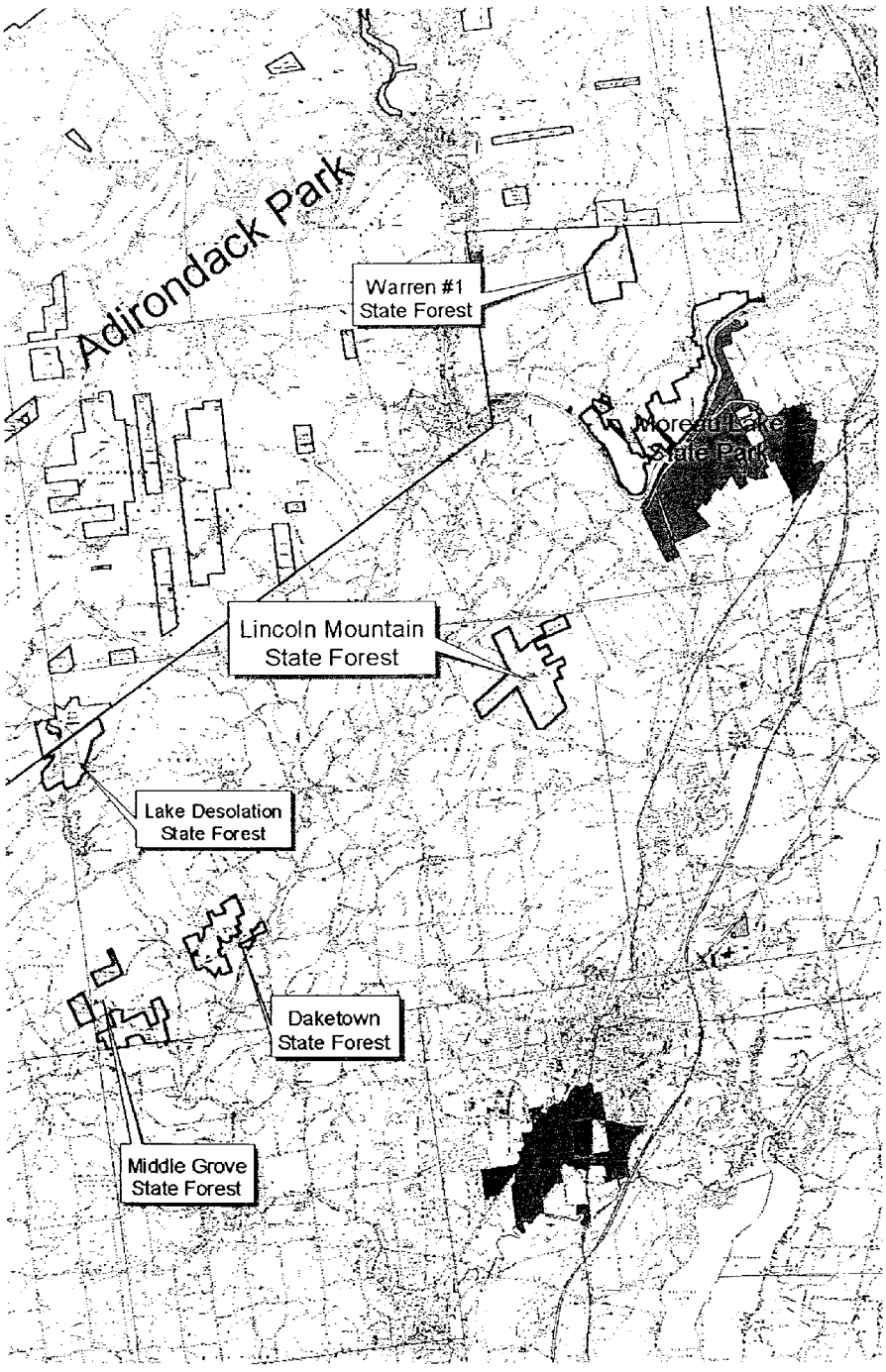
Preface

It is the policy of the Department to manage State Forests for multiple uses to serve the People of New York State. The Saratoga/Warren County State Forest Unit Management Plan, comprised of 6 areas and totaling 3120 acres, is the basis for supporting a multiple use goal through the implementation of specific objectives and management strategies. This management will be carried out to ensure the sustenance, biological improvement, and protection of the Unit's ecosystems and to optimize the many benefits to the public that these State Forests provide. The multiple use goal will be accomplished through the applied integration of compatible and sound land management practices.

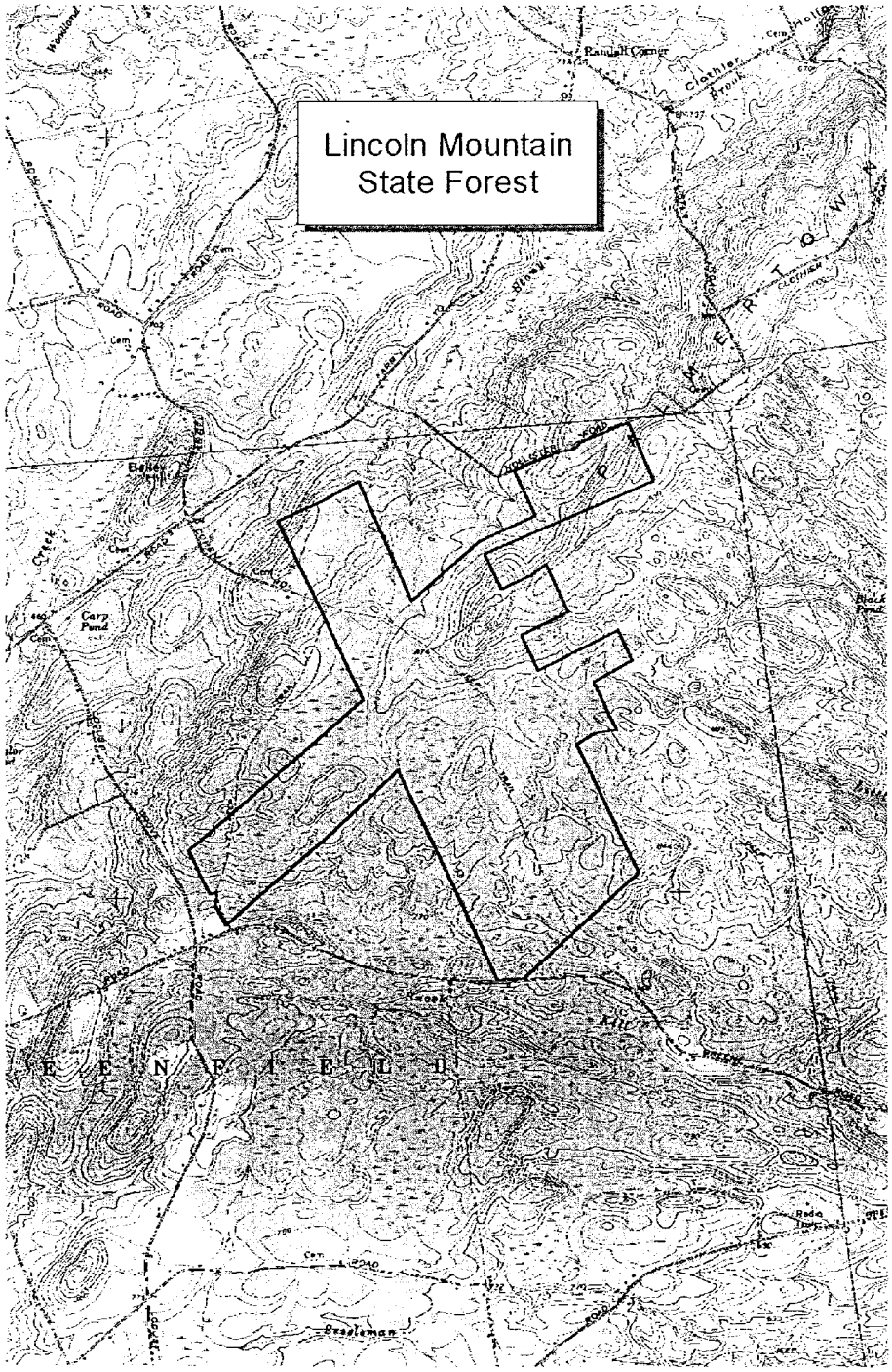
The management plan has been developed following state guidelines for unit management planning requirements of the Department. Recommendations for the management of these lands are included. Article 9, Titles 5 and 7, of the Environmental Conservation Law authorizes the Department of Environmental Conservation (DEC) to provide for the management of lands acquired outside the Adirondack and Catskill Parks. Management as defined by these laws include watershed protection, the production of timber and other forest products, recreation and kindred purposes. The Draft Master Plan for State Forest provides the overall direction and framework for meeting this legal mandate.

Also, there are lands classified as State Forests, along the east side of the Hudson River in the town of Lake Luzerne. These are part of the property transferred from Niagara Mohawk to Moreau State Park. These lands and their management will be covered under the Moreau State Park Management Plan, administered by N.Y.S. Parks and Recreation, and therefore are not included within this management unit.

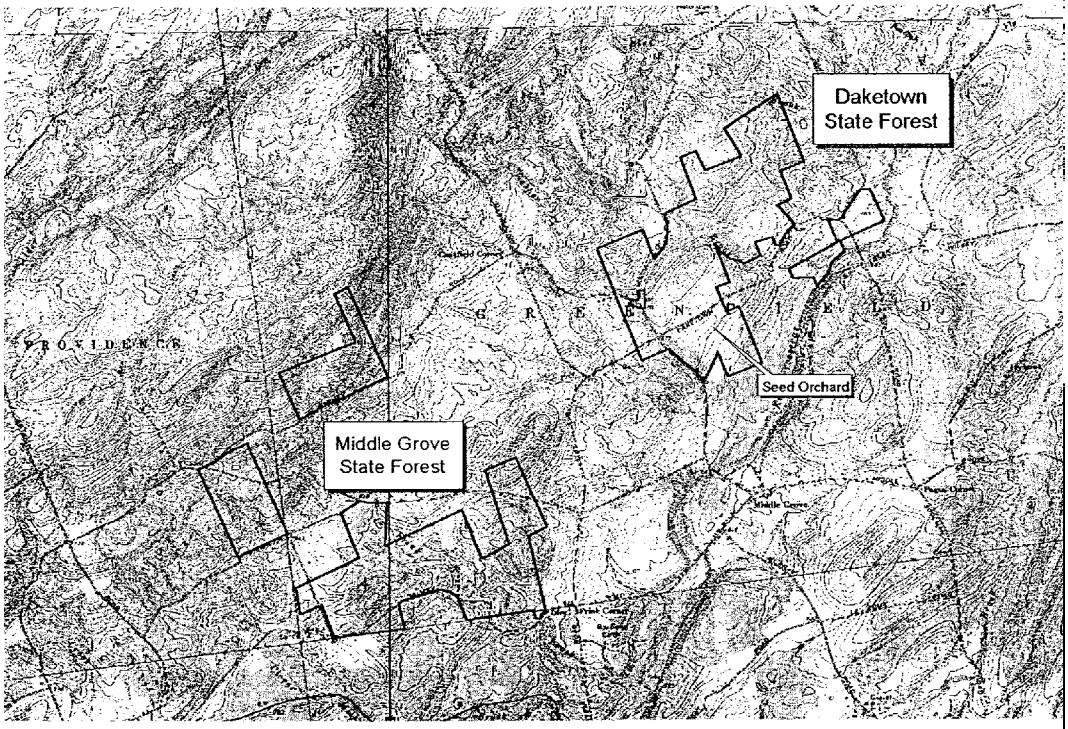
LOCATION MAP FOR THE UNIT



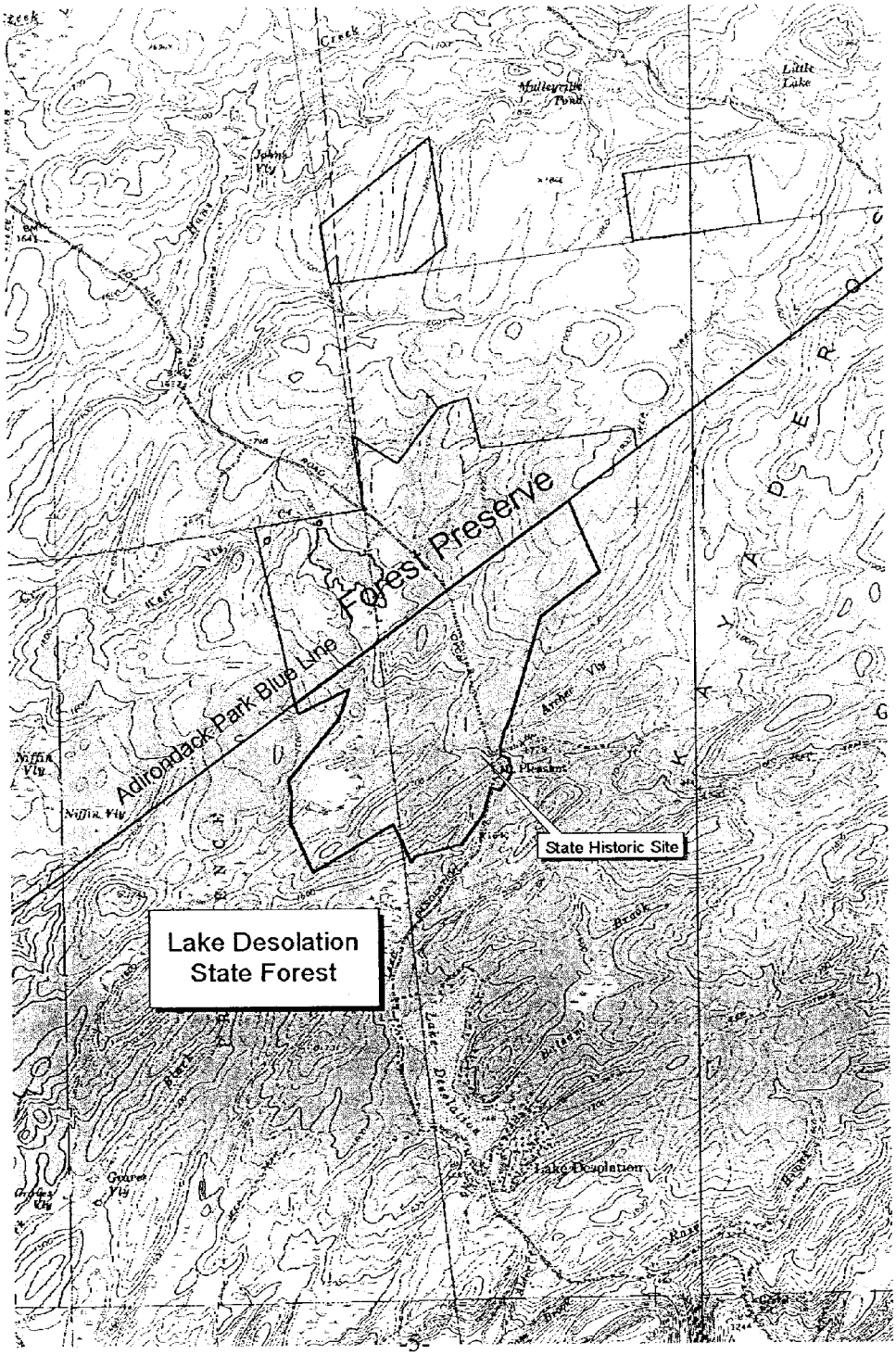
SARATOGA 1: LINCOLN MOUNTAIN STATE FOREST

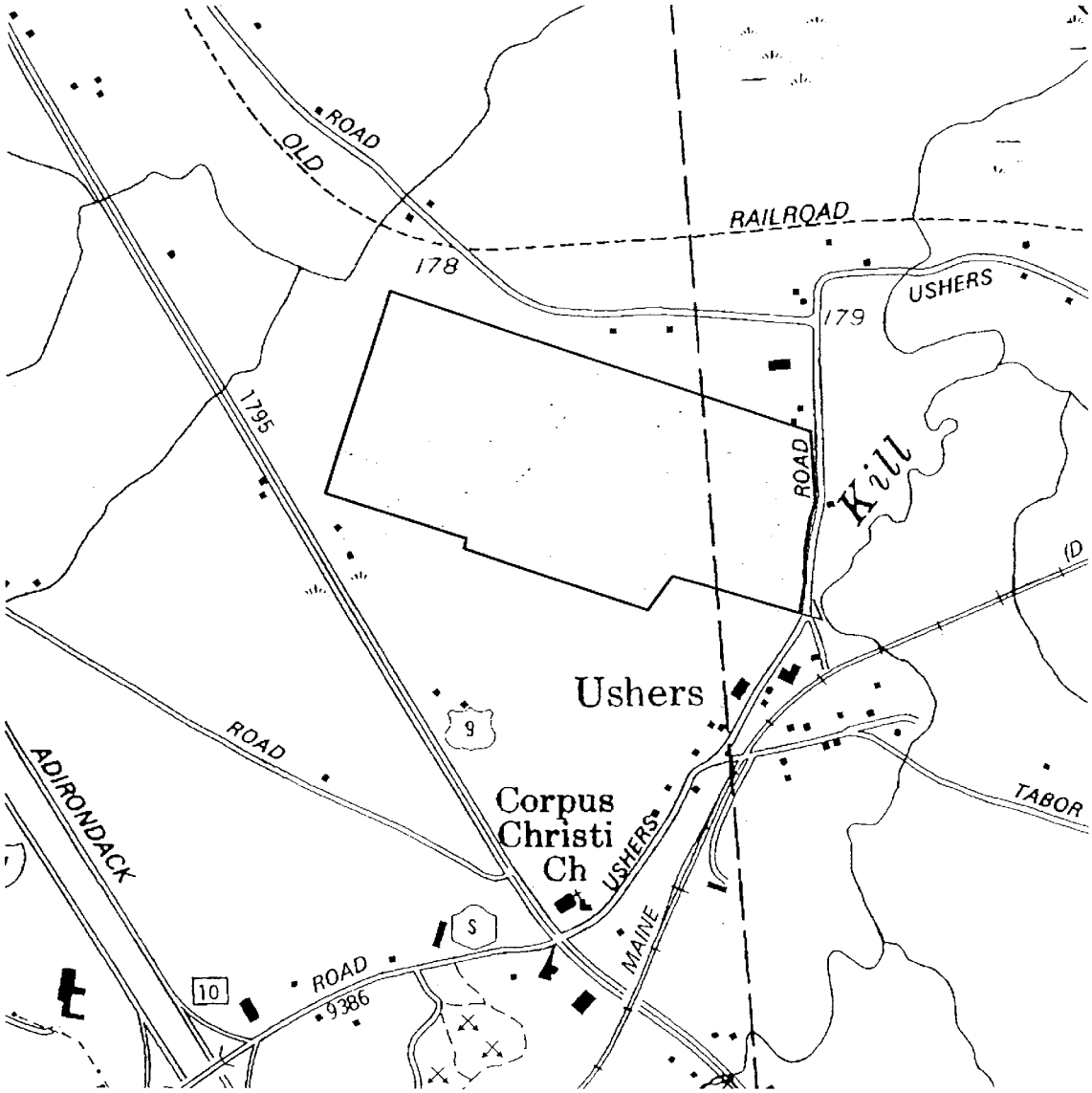


SARATOGA 2: DAKETOWN STATE FOREST
AND
SARATOGA 3: MIDDLE GROVE STATE FOREST



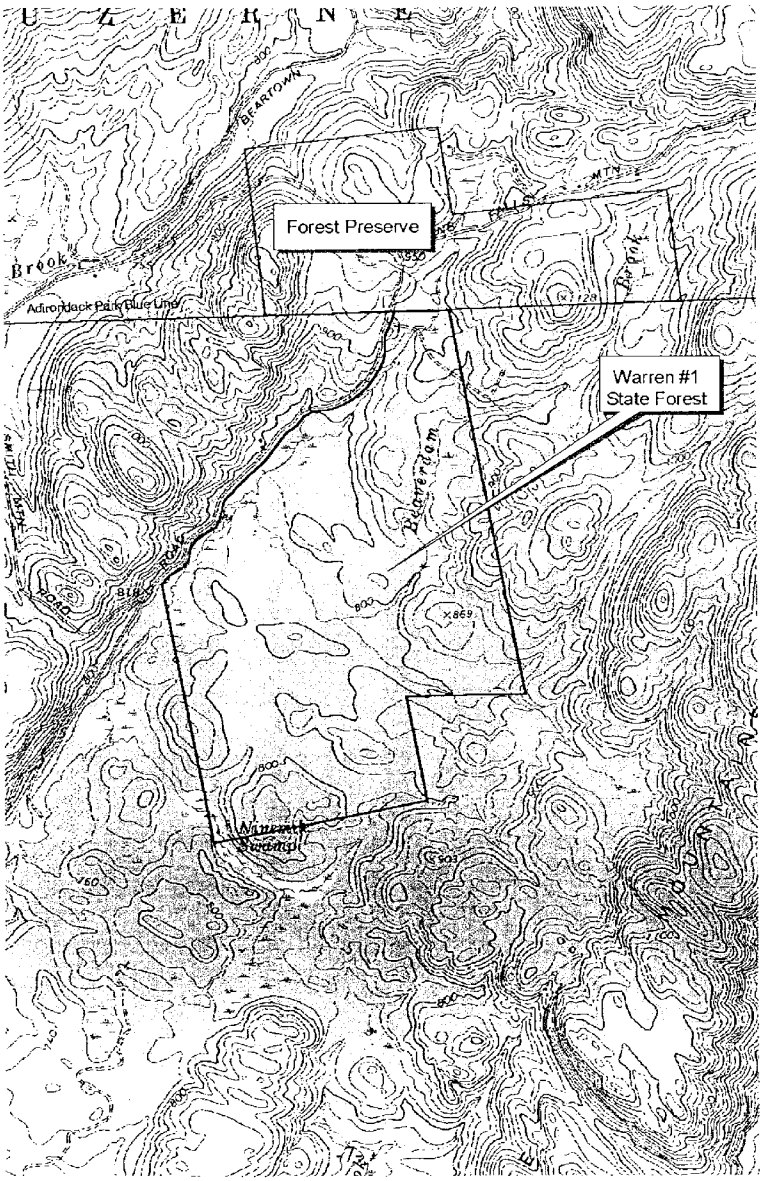
SARATOGA 4: LAKE DESOLATION STATE FOREST





SARATOGA #5 STATE FOREST
LOCATION MAP

WARREN 1: RALPH ROAD STATE FOREST



I. Introduction

A. History of State Forests in New York

Much of the forest lands outside the Adirondack and Catskill State Parks owe their present character to the impact of pioneer settlement, which resulted in land clearing for agricultural purposes following the close of the Revolutionary War. By the late 1800's much of these (future) State Forests areas were open farm lands with approximately one-third of the area left in woodlands. As soils were depleted, settlers moved farther west, in search of more productive sites. After the turn of the century (1900), as the result of better transportation (for out of state products), depleted soils and other factors, farm land abandonment became widespread in New York.

One solution to this problem of land abandonment, was a proposed massive reforestation effort. This would help assure a supply of timber for future generations, as well as getting land that was often unsuited for agriculture, back on the tax roles. The New York State Legislature responded to these concerns by passing the State Reforestation Law of 1929 and the Hewitt Amendment of 1931. This legislation authorized the Conservation Department to begin acquiring land for the purpose of reforestation. Parcels had to be purchased in blocks of at least 500 acres and be suitable for planting trees. The state was also required to pay both town and school taxes on these lands. The north half of Saratoga I (Lincoln Mountain) was purchased as Reforestation Lands.

In 1930, Forest Districts were established and the tasks of land acquisition and reforestation were started. 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 conservation projects. CCC camps were present in Warrensburg and Bolton Landing.

During the war years of 1941-1945, very little was accomplished on State Lands. Plans for further planting, construction, facility maintenance and similar tasks had to be curtailed. One lesson learned as a result of this war (and World War I) was the demand on lumber and related forest products put a tremendous strain on the forests of the U.S., both public and private. However, through postwar funding, forest conservation ideas and projects once again received needed attention. The initiation of the Forest Practice Act in 1947, which allowed State Foresters to provide assistance to private landowners, is one such example.

The Park and Recreation Land Acquisition (PRLA) Act of 1960, and the Environmental Quality Bond Acts of 1972 and 1986, contained provisions for the acquisitions of additional State Forest lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry and recreation, and are commonly referred to as “Multiple Use Lands”. Most of the State Forest Lands in Saratoga and Warren County were purchased through the 1960 PRLA Act. Today, there are over 700,000 acres of State Forest lands which provide multiple benefits to the people of New York State. The use of these lands for a variety of purposes such as timber production, hiking, skiing, fishing, trapping and hunting is of tremendous importance economically and to the health and well-being of the people of the state.

Recently a 90 acre parcel off Ushers Road in the town of Round Lake was reclassified as State Forest. This was originally a detached parcel of the Forest Preserve (outside the Adirondack State Park) and under 100 acres in size. As such, current legislation allowed for this parcel to be rededicated, which was recently done. Actual acreage is 88 and this parcel will be referred to as Saratoga V.

B. Local History

The town of Greenfield was originally part of land grants and divisions made by James, Duke of York, brother to King Charles the II of England. In 1708 the Kayaderroseras Patent was granted and later ratified in 1768. In 1771 the area was surveyed into 24 allotments and 20 years later in 1791, Saratoga County was formed by New York State Legislation. On March 12, 1793 the town of Greenfield was formed. The town was first know as Fairfield due to the influence of early settlers from Connecticut. Although

the upper 60% of the town was set off to form the town of Hadley in 1801, Greenfield is still the largest town in Saratoga County.

Early permanent settlement was established in the 1770's. Gersham Morehouse moved to Greenfield (NY) from Greenfield (CT.) in 1786 and soon thereafter built the first sawmill along the Kayaderroseras Creek. Six years later, he built the first grist mill. Shortly after this, Charles Deake and his four married sons, (William, Charles, John, & Benjamin) came from White Creek in Washington County. The Deakes settled in what is still known as Daketown, north of Middle Grove.

Israel Standish, a veteran of the Revolutionary War, along with his wife (Lydia Smith) moved to the Cohen Road area of Greenfield in 1795. Israel's great-great grandfather was Miles Standish. They had three sons; John, Joseph and Benjamin and two daughters; Lucinda and Lydia. Lucinda married Tom Eggleston and Lydia married Jerimiah Eggleston. After Jerimiah's death in 1803 she remarried Timothy Ide. The 1866 Atlas of Saratoga County shows 8-10 families living in this area, including a B. Standish and E. Standish..

Several legends date to this early period. One relates to Lake Desolation during the time of the Battle of Saratoga (1777). It is believed that a band of Tories setting out from Canada to join Burgoyne at Saratoga, were forced to take a route, which turned out to be impassable, and ended up getting lost. They named the lake blocking their route "Desolation" and began a retreat. Colonel Gorden, in command of forces at Ballston, followed an old Indian trail and harassed the British troops back into Canada.

In 1836, John W. James, a son of Jesse James and a native of Middle Grove (originally called Jamesville), returned from New York City after receiving a reasonable degree of prosperity. He established the James Bank (1836-51) and built the first mill in Saratoga County to manufacture paper by machinery, on Kayaderroseras Creek..

In 1844, the Granger Glass Works was established near Lake Desolation by Oscar Granger. After the purchase of 1400 acres of land, he built a sawmill around 1842. Later, after the village was built, a plank road was constructed from Saratoga, near present Rte. 9N, north to Porter Corners and up over the mountain to the Glass Factory at Mt. Pleasant. It was estimated that it took about 3 million feet of lumber to construct this plank road, and kept four sawmills operating a year to supply the needed lumber. Five furnaces were built, requiring extensive cutting of trees to supply the necessary fuel. Over 20 homes, a store, a school, church, post office, sawmill, grist mill, blacksmith shop, and box factory were also constructed. There also was a Temperance Hotel, at which Henry Ward Beecher, as the Presidential Prohibition candidate, came to deliver an address in 1884. This entire area is now protected as a State Historic Site, and is located on State Forest.

II. Background Information on the Unit

A. Geographical and Geological

This unit consists of 3,120 acres spread across two counties, Warren and Saratoga, and five townships, Providence, Greenfield, Halfmoon, Clifton Park and Lake Luzerne and located in the southeastern foothills of the Adirondacks. The land area is broken up into 19 blocks which are divided by public roads or private land. One block, Saratoga 1 is nearly 1000 acres in size, but the remaining 17 are 500 acres or less in size. This provides easy access to much of the area, but provides obstacles as far as management for some recreational purposes.

1. Saratoga I or Lincoln Mountain State Forest consists of 993 acres in the Town of Greenfield and is located on the Corinth USGS map. This area was purchased from both PRLA and State Reforestation monies (the north half is a Reforestation Area; purchased c. 1933)and the southern half is Multiple Use, purchased in 1963). It is part of three watersheds, Mud Creek, which flows into Kayaderroseras Creek, and Stony Brook and the Snook Kill, which both flow into the Hudson River. The maximum elevation is 960 feet and the minimum is 720 feet, for a difference of 240 feet.

2. Saratoga II or Daketown State Forest is also wholly located in the town of Greenfield and found on the Middle Grove USGS sheet. Two streams, Gasher Brook and Blue Brook, both flow into Kayaderroseras

Creek. It is 505 acres and part of Great Lot 13; the 21st and 22nd Allotments. These lands were purchased in 1966, 67, & 68 under the PRLA. Maximum elevation is 770 feet and minimum elevation is 550 feet, or 220 feet of change.

3. Saratoga III or Middle Grove State Forest is 576 acres in size. It is located primarily in the town of Greenfield, with a small section in the town of Providence. The USGS sheet for Middle Grove contains the above forest. The entire forest is drained by Frink Brook which flows into the Kayaderroseras. These areas were purchased in 1965, 66 & 67 using the PRLA bond and are part of Great Lots 1,6, and 11; Allotments 16, 17, and 21. Maximum elevation is 1270 feet and the minimum is 680 feet or a 590 feet drop.

4. Saratoga IV or Lake Desolation State Forest comprises 443 acres. This forest lies within the towns of Providence and Greenfield. It is located on the Porter Corners USGS sheet. This area was purchased in 1967 under the PRLA Bond Act. Originally this State Forest contained 828 acres, but the northern half, within the Adirondack State Park, was transferred to the Forest Preserve in the 1970's. It is part of the Kayaderroseras Patent, consisting of the 21st Allotment of Great Lots 12 and 13 and Lots 53 & 54 of the John Glen and 44 Others Patent, plus Lot 1 of the Sanders Patent. Most of the area is drained by the Black Creek and West Vly Creek watersheds. The maximum elevation is 1895 feet, dropping to 1660 feet or a 235 foot change.

5. Saratoga V or Ushers Road State Forest. This is a 88 acre parcel in the towns of Halfmoon and Clifton Park that was recently rededicated from Forest Preserve (detached parcels 6 & 28) to State Forest. It is located on the Round Lake USGS Quadrangle and situated in Lot No. 2, 9th Allotment of the Patent of Kayaderosseras. The property is part of the Dwaas Kill watershed which drains into the Hudson River by way of the Anthony Kill. Elevation varies from 170 to a little over 180 feet.

6. Warren I State Forest is located on Ralph Road in the town of Lake Luzerne. There are 515 acres which are part of the Kayaderroseras Patent; Lots 5 & 6 of the 25th Allotment. It is situated on the Lake Luzerne USGS Quadrangle. Beaverdam Brook, which flows into the Hudson River, is the primary watershed.. Maximum elevation is 960 feet, dropping to 780 feet in the southwesterly corner or 180 feet.

The geologic features of the area are typical of the Adirondack foothills. The topography is relatively low and even and built upon nearly flat lying Cambrian and Ordovician sedimentary strata. Surface geology has been strongly influenced by glacial action, the most recent being the Wisconsin glaciation which climaxed about 20,000 years ago. Typical features include glacial outwash from meltwater streams, eskers or long, low snake like ridges of sand and gravel, moraine or till left as the glacier receded, kames which are conical hills of sand and gravel and glacial erratics or large boulders deposited as they fell from the retreating glacier. Many of these features can be found on these State Lands.

B. Soils

1. Lincoln Mountain State Forest.

The primary soil type underlying 80-90% of Saratoga I is a Chatfield-Hollis complex. This soil is moderately deep, well drained to somewhat excessively drained Chatfield soils and shallow, well drained Hollis soils. It is on bedrock controlled upland till plains. Surface topography is irregular and sloping in many directions. Slopes range up to 15%.

Chatfield soils have permeability which is moderate to moderately rapid. Available water capacity is low. Erosion hazard is moderate. Hollis soils are similar to the above except the erosion hazard is more severe on steeper slopes due to this soils.

Sutton loam is also present. This is a very deep, gently sloping, moderately well drained soil formed in glacial till in uplands. Permeability is moderate to moderately rapid. Available water capacity is moderate to high. Erosion hazard is slight.

Wetlands are underlain with either a Massena silt loam or Palms muck. Obviously, these are nearly level and poorly drained soils.

2. Daketown State Forest.

Three soils underlie much of Saratoga II: Charlton loam, Hinckley gravelly loamy sand, and Sutton loam.

Charlton soils are very deep, gently sloping, well drained and formed in glacial till. It is found on the tops of hills in glacially modified uplands. Permeability is moderate to moderately rapid. Available water capacity is high. Erosion hazard is slight to severe, depending on slope.

Hinckley soils are very deep, excessively drained soil formed in water sorted sand and gravel. It is found on outwash plains and deltas. Permeability can be rapid to very rapid. Available water capacity is very low. Erosion hazard ranges from slight to moderate, depending on slope.

Sutton loam is common and often found adjacent to streams and poorly drained areas. See No 1 above for a description.

3. Middle Grove State Forest.

Most of Saratoga III is underlain with Charlton loam. Two large areas of Windsor loamy sand are also present along Middle Grove Road and Stands A-6,7,&8. Sutton loam is found along stream channels, while Hinckley soils are present in 2 or 3 small pockets. (See above paragraphs for a more complete description.)

The section of Saratoga III adjacent to Barney Road encompass a Becket-Tunbridge complex. This is a very deep, well drained Becket soil and a moderately deep, well drained Tunbridge soil. These are bedrock controlled mountains, ridges and other landscapes common to the Adirondack foothills. These areas are steep and very bouldery. Permeability is moderate. Available water capacity is moderate. Erosion hazard can be severe.

Along Hughs Road is a section of State Forest which is primarily an Allagash fine sandy loam. This is a very deep, well drained soil formed in water sorted sand. It is on glacial outwash plains and terraces in the higher elevations of the Adirondack foothills. Permeability is moderate to rapid. Available water capacity is moderate to high. Erosion hazard is moderate.

4. Lake Desolation State Forest.

A Becket-Tunbridge complex soil is the primary type in Saratoga IV. (See No. 3 above).

Near the center of the State Forest, where the wetlands are located, is a section of Skerry fine sandy loam which is gently sloping and very stony. This is a very deep, moderately well drained soil formed in loamy glacial till underlain by very firm sandy glacial till. It is found at the base of slopes and in slightly depressed areas in the higher elevations of the Adirondack foothills. Permeability is moderate. Available water capacity is moderate. Erosion hazard is slight.

5. Saratoga 5 State Forest. Four soil types are present.

Deerfield loamy fine sand. This is a very deep, moderately well drained soil formed in water sorted sand. Permeability is rapid or vary rapid. Available water capacity is very low. Erosion hazard is slight. This type is located primarily in the western end of the property.

Oakville loamy fine sand. This is a very deep, well drained to moderately well drained soil. Permeability is rapid. Available water capacity is low. Erosion hazard is moderate. This primarily located in the northeast corner of the property.

Scarboro mucky loamy sand. This is a very deep, nearly level, very poorly drained soil. Permeability is rapid. Available water capacity is moderate. Erosion hazard is slight.

Wareham loamy sand. This is a very deep, nearly level, somewhat poorly drained soil. Permeability is rapid. Available water capacity is moderate. Erosion hazard is slight.

6. Warren I State Forest has three primary soil types.

A Bice very bouldery fine sandy loam occupies much of the area. This is a deep, well drained soil. Permeability is moderate to moderately rapid. Available water capacity is moderate.

Along stream channels and in low areas is found a Lyme very stony fine sandy loam. This is a

deep, poorly drained soil with moderate to moderately rapid permeability. Available water capacity is also moderate. Also present is a Schroon very bouldery fine sandy loam. This is deep and moderately well drained with moderate permeability and available water capacity.

C. Water and Fisheries Resources

The following is a list of streams and wetlands located within these State Forest areas.

1. Wetlands:

State Forest Area	Stand No.	Acres	Classified & Number
Saratoga 1.	A-9	6	
	A-21	29	Yes C-16
	A-27	24	Yes C-17
	A-30	31	Yes C-21
	A-31	11	Yes C-20
	A-33	10	
	A-34	5	
Saratoga 2	None		
Saratoga 3	None		
Saratoga 4	B-15	5	Yes P-28
	B-20	11	Yes P-34
Saratoga 5	None		
Warren 1	A-5	24	Yes L-7,10,11
TOTAL:		156	

2. Streams:

State Forest Area	Major Stream(s)	Classification	Length-miles*
Saratoga 1	None		
Saratoga 2	Kayaderroseras Creek.	C(T)	.13
	Gasher Brook	C(T)	.51
	Blue Brook	C(T)	.04
Saratoga 3	Frink Brook	C(T)	.39
Saratoga 4	Black Creek	C(T)	.11
Warren 1	Beaverdam Brook	C(T)	1.00

* Distance which crosses State Forest

A 1932 survey lists Gasher Brook as a self sustaining wild brook trout water. Frink Brook and its tributaries, also are likely to contain wild brook trout or brown trout. Generally these fish are small in size (3-4 inches), with these waters serving as nurseries for downstream waters. Beaverdam Brook was surveyed in 1988 and numerous wild brook trout were found. This stream has excellent spawning habitat. As above, trout are generally small but this stream serves to provide trout for larger

downstream sections. Maintenance of water quality is highly important. For the above reasons, these streams probably sustain only light fishing

pressure. More moderate fishing pressure occurs on the Kayaderroseras Creek, which borders state land on Saratoga 2 State Forest.

3. Open Water:

No ponds or lakes are present. Some open water exists as part of the above wetlands.

D. Wildlife

These areas contain a wide variety of wildlife which can vary considerably from area to area due to the wide variations of habitat. Whitetail deer, wild turkey, ruffed grouse, and eastern coyote can be found in most of the areas. Moose and snowshoe hare are present in the Lake Desolation area while the old fields near Middle Grove are more conducive to woodcock, red fox, and cottontail rabbits. A wide variety of song birds, hawks, owls, moles, mice, plus skunks, raccoon, woodchuck, squirrels (red and grey), chipmunks, fisher, and porcupine can be found in many of the areas of state Forest. Black bear has been occasionally sited.

In wetlands, marshes and other water areas, especially in the Lake Desolation and Beaverdam Brook sections, wood ducks, mallards, black ducks, beaver, otter and muskrat are found.

Chambers' Integrating Timber and Wildlife Management Handbook (1983) lists those species of mammals, birds, reptiles and amphibians which are likely to occur in this area. The above 5 management units are either in the Adirondack Foothills or Adirondack Transition ecozone. The following chart lists the number of species according to ecozone.

	Foothills	Adk. Transition	Adk.
1.	Mammals	52	51
2.	Birds	92	87
3.	Reptiles	16	17
4.	Amphibians	18	21

The above book is available at the Department of Environmental Conservation forestry office in Warrensburg if more detailed information is of interest. Also, see Appendix 1, 2, 3, & 4.

Approximately 10% of the area consists of old fields, wetlands, seed orchards (partially forested fields) and seedling-sapling stages. The remaining area is primarily well stocked stands of either poletimber or sawtimber sized trees. Since most of the area represents mature or later stage successional stands, species encountered would reflect the need for this habitat. About 60% of this area has sustained either a commercial harvest or pre-commercial thinning over the last 15 years.

Hemlock and white pine are very common and provide roosting sites and protective cover for a number of wildlife species. Also, these areas often provide winter shelter (deer yards) and breeding areas for white-tail deer. Mast producing species, such as oak and beech are common throughout. Remnant apple trees (soft mast) are often scattered within younger stands. Open hardwood stands of oak and Northern hardwoods, in pure stands or mixed with hemlock or pine, often provide open understories and are thus commonly used by wild turkeys. Some aspen stands are present (49 acres), but most aspen is found mixed in with other hardwood stands. Some group selection has been done to encourage regeneration of this species to enhance habitat and food sources for ruffed grouse.

E. Vegetation

The primary species found within the above areas are white pine, hemlock, oaks (red, white, black), red spruce, balsam fir and Northern

hardwoods of beech, maple (red and sugar), birch (yellow, black, white), white ash, black cherry, basswood and elm. The most common species types are as follows;

1. N. hardwoods and hemlock	621 acres
2. N. hardwoods and oak	360 acres
3. Hemlock	321 acres
4. N. hardwoods	297 acres
5. N. hardwoods and white pine	298 acres
6. White pine	283 acres
7. N. hardwoods and spruce-fir	130 acres
8. Oak and white pine	106 acres
9. White pine and hemlock	95 acres
10. Pioneer hardwoods	62 acres
11. Oak and hemlock	51 acres
12. Other forest types (#15,16,24,32,40,47,63)	157 acres
Seed orchard (Norway spruce, Balsam fir, Japanese larch, Scotch pine, Austrian pine)	171 acres

Other less common species include American chestnut, black gum, cottonwood, swamp white oak, black locust, ironwood, grey birch, sassafras, red pine, larch, tamarack(native), blue beech, persimmon, hickory (shagbark and pignut) and aspen (big tooth and trembling).

Overall these forests represent later stages of succession, where Northern hardwoods predominate and are a primary component on nearly half the acreage. White pine is found on 29% of the area, hemlock 23 % and oak 19 %. The sawtimber stands comprise 65% of the area, with poletimber stands covering 25% and the seedling-sapling stage only 10 %.

Site index is an indicator of the productivity of the site where the primary components are soil type, soil depth, and available moisture. Site index is closely reflected by tree height, especially when correlated with age. On those areas where measurements were taken to determine site index (90 % of the area) it was found that 44 % (1220 acres) were Site I, 11 % (314 acres) were Site II, and 44 % (1207 acres) were Site III. This is also important when determining cutting budgets and annual harvests. See Appendix 5 for forest inventory information.

F. Significant Plant Communities

As a result of Neil Pederson's research, it has been determined that an "old age" stand of Black gum (Nyssa sylvatica) exists in the northern wetlands in Saratoga I off Cohen Road. Neil is a doctorate candidate at the Tree-Ring Lamont-Doherty Earth Observatory and Columbia University. Trees up to three feet in diameter have been found and after aging a number of these trees (using an increment borer and cross dating), Neil has found ages dating back to the mid 1400's (or well over 500 years old). Over 30 trees have been aged and recorded to date (see Appendix 10).

The Natural Heritage database indicates that there is no known presence of any rare, threatened or endangered species located on any of these units. However, this does not necessarily exclude the presence of such species. Future surveys should be undertaken, with consideration for current time constraints, to determine the presence of any rare, threatened or endangered species.

G. Facilities

1. Roads

Due to the nature of these State Forests, which consist of many, relatively small parcels (19) spread across a rather wide area, few actual access roads are present or needed. Saratoga I contains a major "truck trail" which connects with Cohen Road and traverses state land for about one mile to the southern boundary. This is classified for motor vehicle use. Two other access roads, one east and one west, provide access to parts of state land and for some private adjacent landowners. An easement exists for the road which runs easterly off Cohen Road. The westerly road has been barricaded by the current owner where it crosses his property. The west end of this road is accessible from Green Road. These two roads total about 2600 feet.

Saratoga II has road frontage of about 6000 feet on town and county highways. No other roads are present except for short spur roads which provide seasonal access and dead end on state land.

Saratoga III has road frontage of approximately 7300 feet. Other access roads amount to an additional 1800 feet. These again are seasonal and provide only limited access.

Saratoga IV contains an access road which has provided private landowner(s) to the west a means of reaching their property, as well as an additional short spur road on the east side of the road. One landowner on the west side of state land has obtained a TRP in the past to remove logs and other forest products. No known Right-Of-Way exists in this area. Lake Desolation Road intersects state land for about 2900 feet.

Warren I has several old logging trails which provide some non-motorized access. There are approximately 2.5± miles of these roads. There is about 5600 feet of frontage on Ralph Road.

Saratoga V has about 1100 feet of frontage, along Ushers Road.

2. Property Lines

Most of the property lines were repainted in 1999. Brush painting and spray painting was utilized. Due to the spray paint being thinner, these will need repainting sooner. The north line of Saratoga IV, although adjoining other state land, has been painted blue, since the adjoining state land is Forest Preserve and no harvesting is allowed. The following is a table of the amount of boundary lines for each state forest area.

State Forest (miles)	Boundary Lines
Saratoga I	9.68
Saratoga II	7.30
Saratoga III	7.36
Saratoga IV	3.18 (does not include "Blue line")
Saratoga V	1.66
Warren I	3.09
Total:	32.27

3. Signs

State forest signs have been erected for each of the Saratoga units. These signs give the name of the forests and size. The sign on Saratoga I has recently been vandalized and removed. No sign is present for Warren I or Saratoga V.

H. Cultural Resources

1. "Granger Glass Factory " site at Lake Desolation. This is a designated State Historic Site (Archaeological) located along the west side of Lake Desolation Road. No boundary lines delineate this area. Much of this area has pits and mounds where people have dug for old bottles, as well as spoil glass fragments, brick, blue glass and old cellar holes. A small cemetery exists just south of this area. The location of this was shown to the author by Jud Kilmer but no evidence is currently present on the ground. However, a small booklet put out by the National Bottle Museum in Ballston Spa, "Glass Factory Mountain" by Mildred Hathaway clearly shows a St. Peter's Cemetery in this same vicinity. This may or may not be the same cemetery. Durkee lists a Mt. Pleasant Cemetery in Greenfield Epitaphs, which is located "on the west side of the highway leading from Lake Desolation to Mt. Pleasant and a short distance from the later place." A Lucy Kemp and Mary Jane Archer are listed in this cemetery.

2. Another cemetery is present on Saratoga II and consists of a number of stone grave markers located at the edge of the woods near Lake Desolation Road and south of Daketown Road. This is the Caleb Sherman Cemetery which includes the following: Caleb Sherman and his wife, Mary, Sarah Kellogg, and Ruhamah, Polly and Electy James (children of Jonathon and Charlotte James). It is of interest to note that Sarah Kellogg was the grand daughter of Gideon Putnam of Saratoga and her mother was Phila Putnam, after which Phila Street in Saratoga Springs was named. Dates in this cemetery are from 1788 to 1842. A number (12) of old field

stones are present which appear to be grave markers and may indicate much older grave sites. These were often used since early settlers had very little money and the cost of the stones, including transportation, made them prohibitive. These would likely date to before 1800. Twenty-three stones are present(see Appendix 11).

3. Old dam sites are present on Saratoga III, along Middle Grove Road and on Warren I along Ralph Road.

4. Numerous cellar holes, old foundations, wire fencing, and stone walls are scattered throughout all state forest areas.

I. Recreation

The primary recreation which occur on these state forests is hunting for white tail deer and wild turkey. Many other activities occur but probably at a much lower activity level. Some hunting for cotton tail rabbits, snowshoe hare and ruffed grouse takes place. Fishing in the Kayaderroseras Creek near Middle Grove is probably light. Some trapping is done on Saratoga I and may be done in some other areas. Snowmobile Clubs, through a Adopt-a-Natural-Resource Agreement with DEC, maintain a snowmobile trail across Saratoga I, following the old roads which traverse the property. ATV use in Saratoga I and II is a problem since the use is currently illegal. (The only legal motor vehicle trail which is posted is the truck trail in Saratoga I). Other uses for hiking, cross-country skiing, snowshoeing and berry picking occur, but represent only relatively light use.

III. Resource Demands

Resource demands on this land unit are limited particularly by the relative small size and due to the character of the unit i.e. 18 separate parcels. It appears at present, use of the property is mostly on a local basis for recreational activities such as hiking, hunting, fishing and wildlife observation. Limited use is probably due to the fact that the existence of this public property and its attributes are relatively unknown to the general public. Also, the fact that these properties are not located along a well traveled highway lend to this lack of use.

Aside from recreational uses, other resource demands on this unit include the production of timber and wood products, as well as the impact of harvesting of the wildlife and fisheries resources. Harvesting of forest products is a part of DEC's multiple use philosophy. The harvest of trees for wood products is a primary tool in the management of land for various multiple use purposes, including forest health, wildlife habitat, and recreational use. Short and long term forest treatments will be designed to integrate and benefit these varied uses.

Of special note is the use of 182 acres of these State Forest by the State Nursery in Saratoga. Numerous species of trees and shrubs are grown for the sole purpose of producing seed for use at the nursery. There are five seed orchards and three seed production areas on the properties composing the Middle Grove Multiple Use Area (Saratoga 2.). See Appendix 9 which contains pertinent information regarding the orchards and production areas. Specialized management practices are undertaken to help insure a continuous supply of seeds.

Further resource demands include protection of the water, soil and rare and endangered plants. Specialized uses by individuals and organization (US Army Reserves and National Guard) through the TRP process(Temporary Revocable Permit) provide a means for controlled use of a given area.. Most of the streams are classified c(T)under Article 15, due to their high quality, as evidenced by trout populations, and should be maintained for their quantity, quality and regimen of water runoff which provide potable water, fishing, and numerous other benefits.

The Endangered Species Act protects biological diversity and forms a national commitment to preserve for future generations a world as rich in plants and wildlife as the one that presently exists. Any known threatened or endangered species of plants or animals on this land unit will be protected according to ECL Sections 9-1503, 11-0535, 11-0536.

IV. Resource Management Constraints

This management plan has been developed within the constraints set forth by the ECL, Rules and Regulations of the State of New York, and established Policies and Procedures for the administration of the lands involved. The following is a list of applicable laws, rules, regulations and policies which govern specific management actions on the unit.

A. Environmental Conservation Laws

ECL Article 8 - Environmental Quality Review
ECL Article 9 - Lands and Forests
ECL Article 11 - Fish and Wildlife
ECL Article 15 - Water Resources
ECL Article 23 - Mineral Resources
ECL Article 24 - Freshwater Wetlands
ECL Article 33 - Pesticides
ECL Article 51 - Implementation of the Environmental Quality Bond Act (EQBA) of 1972
ECL Article 52 - Implementation of the Environmental Quality Bond Act of 1986
ECL Article 71 - Enforcement

B. Parks, Recreation and Historic Preservation Law

Article 14, Chapter 354 - Cultural and Historic Resources

C. New York Code, Rules and Regulations

Title 6
Chapter I - Fish and Wildlife
Chapter II - Lands and Forests
Chapter III - Air Resources
Chapter IV - Quality Services
Chapter V - Resource Management Services
Chapter VI - State Environmental Quality Review
Chapter VII - Sub-chapter A - Implementation of EQBA of 1972
Chapter X - Division of Water Resources

D. Department Policies - Division of Lands and Forests; Division of Fish and Wildlife

Public Use
Temporary Revocable Permits
Motor Vehicle Use
Timber Management
Draft Unit Management Planning Handbook
Pesticides
Prescribed Fire
Draft State Forest Master Plan
Inventory
Acquisition
Road Construction
Fish Species Management
Habitat Management Activities
Public Use Development Activities
Wild Species Management

E. Permanent and Ongoing Uses

These are of a permanent or ongoing nature which are regulated by Legislative Action, Memoranda of Understanding, Deeded Rights, Leases or Easements.

Electrical Transmission and Telephone Lines
County and Town Roads
Deeded Rights-of-Way
Deeded Water Rights
Ongoing Forest Products Sales Agreement Contracts
Cooperative Research Projects
Reservation of Forest Products for DEC Operations Sawmill

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

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

program of the Department, and there are services and activities associated with that program, the Department has the mandated obligation to comply with the ADA, Title II and ADA Accessibility Guidelines, as well as Section 504 of the Rehabilitation Act.

The ADA requires a public entity to examine thoroughly, each of its programs and services to determine the level of accessibility provided. The examination involves the identification of all existing programs and services and a formal assessment to determine the degree of accessibility provided to each. The assessment includes the use of the standards established by Federal Department of Justice Rule as delineated by the Americans with Disabilities Act Accessibility Guidelines (ADAAG, either adopted or proposed) and/or the New York State Uniform Fire Prevention and Building Codes, as appropriate. Each Unit Management Plan prepared by the Department will outline a proposed assessment process and a schedule for completing the assessment. This activity is dependent on obtaining an inventory of all the recreational facilities or assets supporting the programs and services available on the unit. The assessment will also establish the need for new or upgraded facilities or assets necessary to meet ADA mandates. The Department is not required to make each of its existing facilities and assets accessible. The facilities or assets proposed in this UMP are identified in the "Management Actions" section.

The Americans with Disabilities Act Accessibility Guidelines

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

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

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

ADAAG Application

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

V. The Goal of Management

It is the goal of the Department to manage State Forests for multiple uses to serve the needs of the People of New York State. This management will be considered on a landscape level, not only to ensure the biological diversity and protection of the forest ecosystem, but to optimize the many benefits to the public that forest lands provide. This goal will be

accomplished through the applied integration of compatible and sound land management practices.

VI. Objectives

State Forests are managed for multiple uses including watershed protection, wildlife, timber, recreational use, and other kindred purposes. The objectives which are listed below are derived from the previously identified resource demands and the management goal statement. They form the basis for the schedule of management actions which follow.

A. Protection Management

The fundamental aspect of State land management is to ensure that the basic environmental integrity of the land is not damaged since it forms the basis for all life forms. These objectives will ensure that both cultural and biological resources that are present on the unit will be protected from detrimental activities.

1. Protect 127 acres of wetlands through the use of buffer zones and protection forests.
2. Protect all streams on the unit, through the use of buffer zones and by keeping stream crossings to a minimum, with emphasis on the 11,500 feet of classified streams.
3. Protect the forests against damaging fires, insects and diseases through regular patrols and monitoring.
4. Protect State lands from trespass by maintaining the 32.27 miles of boundary lines and through patrols by DEC law enforcement personnel.
5. Protect cultural resources, such as "Glass Factory Village", as provided under the New York State Historic Preservation Act. Protect old mill sites, foundations, stone walls, and cemeteries. This will be accomplished by avoiding these areas during silvicultural or other activities and/or leaving a buffer zone adjacent to these areas.
6. Protect any known sites of Rare, Threatened or Endangered species. Protection may involve vegetation manipulation where appropriate, to improve their chances of survival. As resources are available, surveys will be undertaken to determine the existence of any rare, threatened or endangered species.
7. Reduce vandalism, illegal dumping, illegal use of motor vehicles and other illegal activities through regular patrols of the areas by Forest Rangers, Environmental Conservation Officers and otherDEC staff.
8. Protect any "old age" forest, such as the black gum stand in Saratoga I through designation as a "Protection Forest" (see glossary).

Protection of wetlands and the maintenance of high water quality in several streams fulfill the watershed protection objectives on the unit. For the most part, these lands and streams are at the "top" of the watershed and as such, can considerably influence downstream uses of our water resources. These specialized habitats also bring vegetative diversity to an otherwise forested ecosystem.

The objective which ensures fire, and insect and disease control systems are in place, provide a reasonable measure of protection from unpredictable outbreaks of fire, diseases, and insects.

Those objectives which concern the protection of rare, threatened and endangered species, as well as the protection of cultural resources take into account an increasing awareness that rare plant and animal species and cultural resources should be protected whenever possible.

B. Public Use and Recreation

The opportunity for public use and recreation is one of the most direct benefits that these lands provide to the average citizen. These objectives will provide for a number of recreational opportunities that are basically compatible with each other and consistent with the natural characteristics of the land.

1. Provide and improve public access to this State Forest Unit.
2. Provide maps and develop other informational brochures on this unit.

3. Identify State lands through the maintenance of boundary lines, posting of State signs along highways and maintaining State Forest identification signs.
4. Continue present compatible recreational activities.
5. Limit public access or other recreational activities where degradation of the Unit's resources is occurring.
6. Protect and enhance scenic resources including vistas, stone walls, unique vegetation, etc.
7. Allow for additional recreational opportunities, such as trails, which are compatible with current uses and consistent with Department Policy and Guidelines.

These objectives provide direction for achieving public use of the unit. Public use and recreation will be encouraged if the activities are compatible with the overall goal of management on State Forests. Additional recreational opportunities will be provided when they are compatible with the other objectives for this unit. Some present uses may be restricted if they become incompatible with other objectives or if those uses are causing degradation of the unit. As other public uses and recreational demands are identified and if they are compatible with the other objectives for this unit, they will be incorporated into the plan.

C. Wildlife

These objectives will enhance the diversity and recreational values as related to the various wildlife species on the Unit.

1. Manage this Land Unit to provide for a variety of wildlife species within natural resource constraints.
2. Improve specific wildlife habitats on limited basis for specific species when deemed important, especially in the case of rare, threatened or endangered species.
3. Improve wildlife viewing opportunities.
4. Improve hunting opportunities in allowed areas.

D. Fisheries

1. Identify quality fishing habitats within the 6 classified streams.
2. Provide improved access for fishing in Kayaderroseras Creek.

E. Education and Research

1. Encourage research and education by accommodating researchers and educators where possible and appropriate.
2. Provide information to the general public about the unit through brochures, signs, press releases and woods walks.

F. Forest

These objectives will provide a sustainable yield of various wood products that will provide income and employment opportunities without compromising the overall health and productivity of the forest ecosystem.

1. Maintain a variety of tree species and age classe on the unit in order to provide for biodiversity of both flora and fauna.
2. Maintain an annual average allowable cut of no more than 129 acres that will provide a sustained yield of wood products and is within the productive biological capacity of the forest and which does not significantly compromise other resource values. See the chart in Appendix 5 for detailed information on allowable harvest.
3. Manage for uneven-aged or even-aged management based on stand characteristics and data as obtained from recent inventory information. This would result in a maximum harvest or thinning of approximately 1290 acres over an 10 year period. See Appendix 5 and 6.
4. Conduct a forest re-inventory no later than 10 years from the last inventory (1999-2000).

G. Seed orchards and seed production areas

The objective of creating and maintaining seed orchards and/or seed production areas is to produce our own seed from known individual trees or stands and to produce a sufficient quantity of seed in order to meet planting needs of the state nursery in Saratoga Springs.

The trees which compose the seed production areas were grown from seed collected from stands of known origin and quality.

VII. Resource Management Actions

The schedule of the following management actions to achieve the stated objectives are dependant upon several factors: (1) The markets for forest products are constantly changing. The treatment of some stands may be delayed by a lack of markets at the time of scheduled treatment. If markets develop for the products from stands that are presently considered non-commercial, the plan may be amended to include these stands in the cutting schedule. (2) Disease, insect or storm damage may necessitate unscheduled salvage actions.(3) Budget constraints may also delay scheduled management actions. These actions will be completed as soon as possible within these constraints.

A. Protective Actions

1. Insect and Disease

The health of plant populations on the Unit will be monitored and maintained through the integrated pest management approach. Observations and/or inventory of potential insect or disease outbreaks will be recorded. When warranted, appropriate control strategies will be developed to reduce health and aesthetic impacts. More common problems, such as beech bark disease, ash decline, blister rust of pine, etc. will be controlled through individual tree selection (and harvesting) as a part of specific stand management.

2. Fire Control, State Land Security and Public Safety

An adequate level of program involvement will be maintained so as to assure minimum risk of loss to the forest and land resources, facilities and to the public.

3. Temporary Revocable Permits

Permits may be issued for the temporary use of State Lands by the public within stated guidelines and legal constraints so as to protect State Lands and their resources. Authority for this is authorized by Section 9-0105 of the Environmental Conservation Law (ECL) and by provisions of the Policy and Procedures Manual, Section 8426, "Temporary Revocable Permits for the use of State Lands". Permits are granted to the U.S. Army and National Guard for training exercises on Saratoga IV (Lake Desolation) and applied for annually. Other occasional use is required where State Lands provide access for logging or other uses to adjoining private land.

4. Wetlands

The many benefits of protected (12.4 acres and larger) wetlands will be maintained by adhering to the requirements of ECL 3-0301 and 24-1301 in the Freshwater Wetlands laws. In addition, Silvicultural Best Management Practices will be followed. (See bibliography)

5. Watersheds

Protection of the various streams from water quality degradation will be accomplished by adhering to Silvicultural Best Management Practices as detailed in the Timber Management Handbook, Chapter 200.These practices restrict the use of heavy equipment and logging within certain distances of streams based on the steepness of adjacent slopes, soils, and condition of the stream channel as well as how and where stream crossings should occur. Bridging of streams may be required based on individual circumstances. Consideration will be made to layout future logging operations so that stream crossings are minimized.

6. Cultural Resources

The Department has followed procedures established in concert with the New York State office of Parks, Recreation and Historic Preservation (OPRHP) in determining the presence of cultural resources on this unit. This involved completion of the Structural-Archaeological Assessment Form (SAAF) and reviewing the New York State Archaeological Site Locations Map. OPRHP and the New York State Museum have been consulted in any instance where the Site Locations Map indicated an archaeological or historic site may occur on management unit lands. The

results of the SAAF evaluation indicate that there is a site located within the unit. DEC will consult with OPRHP before conducting any activities within one-half mile of the site, and will take those measures necessary to protect this resource.

Protection of the cemeteries, old house sites, old dam sites and stone walls will be provided when planning individual timber harvests and/or construction projects. Other means such as fencing and appropriate signs should be constructed to protect the Caleb Sherman Cemetery, Glass Factory Village and any other similar sites found on State Forests. Development of a "protection zone" which encompasses the old Mt. Pleasant Glass Factory (approximately 12 acres), with accompanying signs should be undertaken.

The 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 the Environmental Conservation Law and Section 233 of the 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 the Environmental Conservation Law and Section 233 of the Education Law.

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.

Archaeological Site Protection:

The 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.

7. Soils

Protection of soils from erosion will be accomplished through the use of Best Management Practices (BMP) as well as other procedures such as winter logging on highly erodible soils, water bars, ditching, bridging and closing of non-essential access roads. Soils such as those in Lake Desolation State Forest which are thin and often highly erodible, limit the use of motor vehicles in these areas. Closing of the old logging road on the west side of the Lake Desolation Road will be undertaken since it traverses through the State Historic Site and provides no known legal access for adjoining landowners. Also, the main truck trail on Lincoln Mountain State Forest needs rehabilitation to install culverts, improve ditching and add fill to restore the road "crown". This road also needs brushing to increase site distances and improve safety.

8. Public Safety

None.

B. Public Use & Recreation

Numerous projects should be developed to enhance access and use of State Forests.

1. Produce a public use brochure, complete with a map showing lands, facilities and access points, of the state forests within this unit. It should also contain natural history and historic information on past use.

2. Construct 4 new parking areas, one each on Saratoga 2,3,4 and 5. (See Appendix 12)

3. Develop access trail (approximately .25 miles) to the Kayaderroseras Creek off Sand Hill Road for fishing and other uses , with accompanying parking lot. This section of State Forest is a small parcel which receives little use, but would provide excellent fishing access. Also, a grove of white pine near the stream could provide an opportunity to develop a picnic area in the future.

4. Develop hiking/skiing trail of approximately 3/4 mile on Saratoga 2 which will be accessible to persons with disabilities and also provide access to Frink Brook. This will also include a parking lot. Currently an old skid trail traverses state land in this location. A small parking lot will be built nearby. An old logging road, which is relatively clear and level, continues westerly from this location. This will be developed into short trail that extends to Young Road.

5. Continue Stewardship Agreement for use of roads on Saratoga 1 for snowmobile trails during the months of December through March.

6. Construct multiple use (hiking/skiing) trails of up to 3.0 miles on the Lake Desolation State Forest (Saratoga 4). Since this area is more remote and the soils are thin and often highly erodible, use of this area is better suited to non-motorized uses of hiking, cross country skiing, snowshoeing, etc. Use of these trails will also be for horseback riding since use will be light and sporadic. At least two loops, one on each side of the road will be developed as funds become available.

7. Install two vehicle barriers. (1)On the old logging road on the west side of Lake Desolation Road to eliminate further degradation of this access road. This road goes down a steep grade and through a wetland. Use of the this road will be restricted to only non-motorized. (2) On the west end of Saratoga 1, just off Green Road, to eliminate illegal use of this area.

8. Barricade numerous (21) short dead end access roads on Saratoga 1, 2 , 3 & 4 and Warren 1, which provide little or no value for access or use of state forests. This will help eliminate illegal dumping of garbage and other similar problems. (See Appendix 12)

9. Develop a small parking lot for 3-4 cars and trail (approximately .25 to .50 miles) around the old Glass Factory Village. This will also include development of a brochure and appropriate signs to explain the history and unique value of this area.

C. Forest Management

Timber harvest will be undertaken on no more than 129 acres per year to provide a sustained yield of forest products. Priority of management will depend on stand characteristics such as stocking in relation to stand density (basal area), insect and disease problems, and market conditions and demands. Appendix 6 summarizes those stands which fall into the top priority class. This graph represents a cutting budget for an 8-10 year period beginning in 2002. Cuttings include timber harvests, commercial thinning and non-commercial thinning. In the past 16 years annual harvests have averaged about 90 acres per year (See Appendix 7). The following charts depict where the highest priority stands occur and the likely time of harvest for the first 9-10 years of management.

Highest Priority Stands (Stocking > 100%)

Location *	Harvest (acres)	Commercial Thinning (acres)	TSI (acres)
Saratoga 1. No. A-1,2,3,4,5,11 16,23,24,25,32	278	116	0
Saratoga 2. A-1,16,21	14	11	0
Saratoga 3. A-2,23,25	45	0	3
Saratoga 4. A-12	0	9	0
Saratoga 5. A-1,3,7	20	6	0
Total = 502 acres	357	142	3

High Priority Stands (Stocking 90-100 %)

Saratoga 1. A-13,17,20,26,29	232	26	0
Saratoga 2. A-4,6,9,24	49	0	5
Saratoga 3. A-4,10,13,15,19, 22,24 B-4,6 C-2	197	0	11
Saratoga 4. A-9, B-24	0	57	0
Saratoga 5. A-2,4,5,6,8,9	24	14	0
Warren 1. A-4	0	13	0
Total = 628 acres	502	110	16

* See attached maps in Appendix 13.

D. Seed Orchards & Seed Production Areas

Over the past eight years these areas in Middle Grove have supplied the nursery with over 500 pounds of seed. The areas are inspected every year for condition and quantity of the cone crop. If collection of the cone is warranted, the nursery relies heavily on its relationship with the Warrensburg Operations Crew and inmate work crews. The areas are mowed prior to collection. A nursery crew will top those trees which have an abundant number of cones. If time permits, they will also fell dead trees and invading species. The inmate crews are used to pick cones and to remove the tops from the area. The tree tops and other wood debris are usually chipped or cut into manageable lengths and stacked around the base of the living trees.

The orchard and seed production areas are providing the nursery with seed at significant savings. It is the intention of the nursery to continue use of these areas in order to fulfill future seed needs. Future projects and/or maintenance could include annual mowing, periodic pruning, topping, removal of debris, fertilization and pesticide application (See appendix 9).

E. Detached Parcels

There are 25 Forest Preserve detached parcels in Saratoga County (see Appendix 14) and none in Warren County. Most of these are under 25 acres is size and should be sold or disposed of. Two of these exceed 50 acres in size (52 & 107 acres) and should be offered for rededication to either the division of Lands and Forests or Fish and Wildlife, before disposal.

VIII. Priority of Management

The following is a list of projects to be undertaken on State Forest based on the highest to lowest priority. Other factors, such as budgetary constraints, manpower, etc. may influence the actual time and/or order in which the projects are accomplished. (See Appendix 12 for the location of these proposed facilities.)

A. High Priority

1. Rehabilitation of approximately 1.0 mile of truck trail on Saratoga 1, which would include hauling fill, replacing 2 culverts, clearing ditches, brushing and other labor. Approximate cost = $10,000

2. Install two metal barricades, including necessary signs, across the old road which intersects the west side of Saratoga 4 in Lake Desolation and the west end of Saratoga 1. Approximate cost = $1500

3. Install fencing for protection of Caleb Sherman Cemetery on Saratoga III and Mt. Pleasant Cemetery on Saratoga IV. Approximate cost = $ 500.

4. Close off approximately 21 short "dead end" roads to prohibit dumping of garbage and other materials, using natural materials such as large boulders and sand. Approximate cost = $ 2,500.

5. Replace State Forest entrance sign on Saratoga 1 (Lincoln Mountain) and install new sign on Saratoga 5. approximate cost = $500.

6. Re-establish boundary line on Saratoga 3 (see map).

B. Medium Priority

1. Install parking lot for 5 cars, along with development of .75 mile trail for people with disabilities, to have access to the Frink Brook area. Approximate cost = $6,000

2. Develop multiple use trail for hiking, skiing and horseback riding on Saratoga 4. Length will be 3 miles and include a small 5 car parking lot. Approximate cost = $ 8,000.

3. Construct a small access trail, along with 5 car parking lot on Sand Hill Road, to improve fishing access to the Kayderosseras Creek. Approximate cost = $ 5,500.

4. Develop a brochure outlining locations, recreational opportunities, history and other features of the State Forests in these two counties.

5. Construct a small 3 car parking lot along with a small trail and appropriate signage for the Glass Factory Village, State Historic Site in Lake Desolation. Approximate cost = $ 4,000.

6. Construct a 1.5 mile hiking/cross country ski trail on Saratoga V, with a parking lot for 10 cars. Approximate cost = $11,000.

7. Non-commercial thinning (TSI) on 19 acres. Approximate cost= $9,500

C. Activities Without Need for Increased Budgetary Requirements

1. Continue monitoring Stewardship Agreement for snowmobile trails on Saratoga 1.

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2. Administration of Temporary Revocable Permits.

3. Maintenance of seed orchard and production areas.

APPENDICES

APPENDIX 1. Mammals which are likely to occur on this State Forest Unit (Chambers 1983)

Virginia opossum
Masked shrew
Smokey shrew
Longtail shrew
Northern water shrew
Pygmy shrew
Shorttail shrew
Starnose mole
Hairytail mole
Little brown myotis
Keen myotis
Indiana myotis
Small-footed myotis
Silver-haired bat
Eastern pipistrelle
Big brown bat
Red bat
Hoary bat
Black bear
Raccoon
Fisher
Shorttail weasel
Longtail weasel
Mink
River otter
Striped skunk
Coyote
Red fox
Gray fox
Bobcat
Woodchuck
Eastern chipmunk
Gray squirrel
Red squirrel
Southern flying squirrel
Northern flying squirrel
Beaver
Deer mouse
White-footed mouse
Southern bog lemming
Boreal red-backed vole
Meadow vole
Yellownose mole
Pine vole
Muskrat
Meadow jumping mouse
Woodland jumping mouse
Porcupine
Snowshoe hare
Eastern cottontail
White-tailed deer

APPENDIX 2. Breeding birds which may be found on this State Forest Unit (Chambers 1983)

Great blue heron
Green heron
Mallard
American black duck
Wood duck
Common merganser
Northern goshawk
Sharp-shinned hawk
Cooper's hawk
Red-tailed hawk
Red-shouldered hawk
Broad-winged hawk
Bald eagle
American kestrel
Ruffed grouse
American woodcock
Common snipe
Mourning dove
Yellow-billed cuckoo
Black-billed cuckoo
Common screech owl
Great horned owl
Barred owl
Saw-whet owl
Whip-Poor-Will
Common nighthawk
Chimney swift
Ruby-throated hummingbird
Belted kingfisher
Common flicker
Pileated woodpecker
Yellow-bellied sapsucker
Hairy woodpecker
Downy woodpecker
Eastern kingbird
Great crested flycatcher
Eastern phoebe
Yellow-bellied flycatcher
Willow flycatcher
Alder flycatcher
Least flycatcher
Eastern pewee
Olive-sided flycatcher
Tree swallow
Bank swallow
Rough-winged swallow
Barn swallow
Cliff swallow
Purple martin
Blue jay
American crow
Black-capped chickadee
White-breasted nuthatch
Red-breasted nuthatch
Brown creeper
House wren
Winter wren
Gray catbird
Brown thrasher
American robin
Wood thrush
Hermit thrush
Swainson's thrush
Veery
Eastern bluebird
Golden-crowned kinglet
Cedar waxwing
Yellow throated vireo
Solitary vireo
Red-eyed vireo
Warbling vireo
Black and white warbler
Nashville warbler
Northern parula warbler
Yellow warbler
Magnolia warbler
Black-throated blue warbler
Black-throated green warbler
Blackburnian warbler
Chestnut-sided warbler
Pine warbler
Prairie warbler
Ovenbird
Northern waterthrush
Mourning warbler
Common yellow throat
Canada warbler
American redstart
Red-winged black bird
Northern oriole
Common grackle
Brown-headed cowbird
Scarlet tanager
Northern cardinal
Rose-breasted grosbeak
Indigo bunting
Evening grosbeak
Purple finch
Pine siskin
American goldfinch
Rufous-sided towhee
Savannah sparrow
Grasshopper sparrow
Vesper sparrow
Northern junco
Chipping sparrow
Field sparrow
White-throated sparrow
Swamp sparrow
Song sparrow

APPENDIX 3. Reptiles which may inhabit this State Forest Unit (Chambers 1983)

Common snapping turtle
Stinkpot
Spotted turtle
Bog turtle
Wood turtle
Map turtle
Eastern painted turtle
Eastern spiny softshell
Northern water snake
Northern brown snake
Northern redbelly snake
Eastern garter snake
Eastern ribbon snake
Northern ringneck snake
Northern black racer
Eastern green smooth snake
Black rat snake
Eastern milk snake

APPENDIX 4. Amphibians which may occur on this State Forest Unit (Chambers 1983)

Mudpuppy
Jefferson salamander
Blue-spotted salamander
Spotted salamander
Red-spotted newt
Northern dusky salamander
Mountain dusky salamander
Red back salamander
Slimy salamander
Four-toed salamander
Northern spring salamander
Norther two-lined salamander
American toad
Northern spring peeper
Gray treefrog
Bullfrog
Green frog
Mink frog
Wood frog
Northern leopard frog
Pickerel frog

APPENDIX 5. State Forest Stand Summary

SF	Area	Species Code***	Acres	Volume per Acre	Total Volume	Basal Area	Trees per Acre	Site Index	Size Class	Even or Uneven-aged Mgt.
Sar. I	A-1	31	11	7.8	86	127	184	3	St	U
	A-2	11	62	7.7	477	138	204	1	St	U
	A-3	19	13	10.5	137	150	193	3	St	E
	A-4	16	5	6.1	31	128	158	3	St	U
	A-5	11	6	10.5	63	160	247	1	St	E
	A-6	40	1	R. pine					St	E
	A-7	2	8						SS	-
	A-8	63	12	4.6	55	112	206	1	Pt	E
	A-9	Wetland	6							-
	A-10	31	29	3.2	93	93	159	1	Pt	U
	A-11	11	14	13.6	190	147	195	2	St	U
	A-12	47	2							-
	A-13	12	17	9.7	165	127	173	3	St	U
	A-14	31	43	6.5	280	101	156	3	St	U
	A-15	19	7	4.5	32	108	179	1	Pt	E
	A-16	31	76	10.5	798	139	202	1	St	U
	A-17	10	3	11.4	34	146	210	1	St	E
	A-18	10	16	4.5	72	113	167	1	Pt	E
	A-19	31	44	5	220	117	171	2	Pt	U
	A-20	11	13	8.1	105	117	179	3	St	U
	A-21	Wetland	12	29						-
	A-22	31	32	7.2	230	113	170	1	St	U
	A-23	31	9	12	108	130	164	2	St	U
	A-24	10	21	10.3	216	133	163	3	St	E
	A-25	20	85	21	1785	185	223	3	St	U
	A-26	31	40	11	440	121	141	2	St	U
	A-27	Wetland	24							-
	A-28	11	37	4.7	174	111	190	1	Pt	U
	A-29	11	229	6.3	1443	123	200	1	St	U
	A-30	Wetland	31							-
	A-31	Wetland	11							-
	A-32	19	31	13.9	431	129	163	2	St	U
	A-33	Wetland	10							-
	A-34	Wetland	5							-
	A-35	10	11							-
	Total		993		7665					
Sar. 2	A-1	12	8	11.6	93	136	173	2	St	U
	A-2	14	24	4.8	115	141	230	2	Pt	U
	A-3	12	26	5.8	151	117	147	1	St	E
	A-4	21	19	16.4	312	197	217	3	St	U
	A-5	21	8	3.9	31	164	250	1	Pt	E
	A-6	12	8	7.2	58	128	207	1	St	U
	A-7	21	5	21.2	106	166	192	3	St	U

A-8	22	22	23.1	508	168	190	3	St	U
A-9	12	22	5.1	112	133	167	3	St	E
A-10	12	24	6.9	166	111	144	1	St	E
A-11	21	12	10.2	122	137	169	3	St	E
A-12	21	5	11.3	57	148	180	3	St	U
A-13	21	5	26	130	175	165	2	MSt	U
A-14	21	9	9	81	150	190	3	St	U
A-15	21	13	31.4	408	170	154	2	St	U
A-16	21	11	15.5	171	220	377	1	St	U
A-17	Sd Orchard	63							-
A-18	Sd Orchard	27							-
A-19	Sd Orchard	61							-
A-20	14	5	5.5	28	126	156	3	St	E
A-21	12	6	12.9	77	140	118	3	MSt	U
A-22	14	5						SS	-
A-23	32	16	3.8	61	93	133	3	Pt	E
A-24	21	5	7.6	38	183	310	1	St	E
A-25	14	7						SS	-
A-26	21	46	17.1	906	143	141	3	MSt	U
B-1	Sd Orchard	20							-
B-2	14	4						SS	-
B-3	21	5	6.1	31	134	173	3	St	U
B-4	21	8	7.5	60	150	178	3	St	U
B-5	14	4	2.4	10	110	189	3	Pt	E
B-6	21	2	13.3	27	163	147	3	St	U
Total		505		3859					
Sar 3 A-1	10	5	3.9	20	98	147	1	Pt	E
A-2	12	14	15.8	221	137	149	3	St	U
A-3	21	18	20.6	371	155	179	3	MSt	U
A-4	63	7	4.7	33	183	327	1	Pt	U
A-5	22	6	22.6	136	158	188	3	St	U
A-6	22	55	15	825	141	165	3	St	U
A-7	21	11	16.5	182	130	138	3	St	U
A-8	32	4	7.3	29	98	130	3	St	E
A-9	21	18	12.1	218	139	157	3	St	E
A-10	21	4	8.1	32	180	306	1	St	E
A-11	12	21	7.6	160	107	136	3	St	U
A-12	21	3	7	21	204	312	3	St	E
A-13	30	47	11.7	550	135	169	3	St	U
A-14	22	12	12.1	145	116	155	3	St	U
A-15	21	21	22.9	481	156	159	3	St	U
A-16	21	7	23.3	163	164	122	3	St	U
A-17	30	6	13.8	83	144	192	3	St	U
A-18	16	11	5.1	56	107	181	3	Pt	E

A-19	30	9	10.7	96	115	128	2	St	U
A-20	12	5	10.2	51	118	135	3	St	U
A-21	30	8	4.4	35	84	108	3	Pt	U
A-22	21	6	20.2	121	165	166	3	St	U
A-23	30	22	19.4	427	151	139	2	MSt	U
A-24	12	15	15.2	228	136	133	3	St	E
A-25	12	9	15.5	140	154	188	3	St	U
A-26	21	13	11.8	153	139	176	3	St	E
A-27	30	14	19.4	272	147	152	3	MSt	U
B-1	16	7	12.7	89	120	112	2	St	U
B-2	10	6	10.8	65	120	127	3	St	U
B-3	31	8	9.4	75	109	129	1	St	U
B-4	31	32	10	320	129	165	2	St	U
B-5	31	22	9.3	204	103	137	1	St	U
B-6	12	31	13	403	118	133	3	St	U
C-1	32	40	4.1	164	113	155	1	Pt	U
C-2	12	36	10.3	371	116	149	3	St	U
C-3	12	19	4.1	78	113	148	2	Pt	U
C-4	21	4	6.5	26	110	175	1	Pt	U
Total	576			7044					
Sar 4 A-9	10	42	9.1	419	125	159	1	St	U
A-11	10	20	4.3	95	121	189	1	Pt	U
A-12	13	9	16.4	148	167	256	2	St	E
A13	10	36	7.3	263	123	166	1	St	U
A-14	13	17	6.9	117	107	131	3	St	E
A-15	13	5	2.4	12	108	182	3	Pt	E
A-16	12	5	3.1	16	98	165	3	Pt	E
A-17	10	7	10	70	126	127	3	St	U
B-4	12	8	12	108	132	151	3	St	U
B-5	10	3	9.7	39	110	134	1	St	U
B-8	12	5	8.4	50	110	130	3	St	U
B-10	10	40	10.7	449	107	122	3	St	U
B-11	13	87	3	261	93	133	1	Pt	U
B-12	10	8	3.9	31	102	161	2	Pt	U
B-13	16	2	11.8	47	135	156	3	St	E
B-14	20	13	12.2	159	164	239	3	St	E
B-15	Wetland	5							-
B-16	13	12	8.8	106	106	141	1	St	U
B-17	12	10	3.4	34	113	191	3	Pt	U
B-18	10	17	6.8	116	82	107	3	St	U
B-19	15	25	3.8	95	103	169	1	Pt	E
B-20	Wetland	11							-
B-21	10	13	4.3	56	73	88	1	Pt	U
B-22	24	5	2	10	76	168	1	Pt	U

B-23	10	10	7.7	77	93	103	3	St	E
B-24	10	15	5.7	86	119	196	1	Pt	E
B-25	10	8	2.6	21	90	169	1	Pt	U
B-26	10	5	0	0	120	152	3	Pt	E
		428		2885					
Sar 5 A-1	10	6	7.6	45.6	122	601	1	Pt	U
A-2	31	4	13.8	55.2	148	335	3	St	E
A-3	21	5	57.9	289.5	246	246	2	LSt	U
A-4	22	10	11.9	119	169	511	1	St	E
A-5	21	5	19.5	97.5	160	487	3	St	U
A-6	12	6	15.6	93.6	153	319	1	St	U
A-7	21	15	59.6	894	253	215	2	LSt	U
A-8	12	3	18.3	54.9	180	724	3	St	U
A-9	31	10	12.6	126	123	260	3	St	U
A-10	15	10	5.7	57	101	374	1	Pt	U
A-11	15	10	6.6	66	100	352	1	Pt	U
A-12	8	4	Brushy	Field					-
		88		1898					
Warren A-1	11	250	8	2000	146	175	3	St	U
A-2	20	223	3.4	758	90	138	1	Pt	U
A-3	10	5	9	45	130	159	3	St	U
A-4	14	13						SS	-
A-5	Wetland	24							-
		515		2803					

*****Species Codes:**

10 Northern hardwood
11 Northern hardwood-hemlock
12 Northern hardwood-white pine
13 Northern hardwood-spruce-fir
14 Pioneer hardwood
15 Swamp hardwood
16 Oak
19 Oak-hemlock
20 Hemlock
21 White pine
22 White pine-hemlock
23 spruce-fir
30 Oak-pine
31 Northern hardwood-oak

The following chart summarizes the most recent inventory of these forests. Saratoga State Forests were inventoried in 1999-2000, while Warren County was completed in 1992, and Saratoga V in 2001.

	FOREST LANDS			VOLUME	
State Forest	Total Acres	Commercial	Non-commercial	Per acre (MBF)	Total (MMBF)
Saratoga I	993	877	116*	8.74	7.665
Saratoga II	505	325	180**	11.95	3.859
Saratoga III	576	576	-0-	12.23	7.044
Saratoga IV	443	427	16*	6.76	2.885
Saratoga V	88	68	20	21.57	1.898
Warren I	515	491	24*	5.50	2.803
TOTAL	3120	2764	356	8.38	26.154

* Primarily Wetlands
** Primarily Seed Orchard

CUTTING BUDGET:UNEVEN AGED STANDS

Site Index	Acreage	Cutting Cycle	Ave. Annual Cut
I	1052	15 years	71 acres
II	305	20 years	15 acres
III	989	25 years	40 acres
Total:	2346		126 acres

CUTTING BUDGET:EVEN AGED STANDS

Site Index	Acreage	Maximum Rotation	Ave. Annual Cut
I & II	176	100 years	5.2 acres
III	218	150 years	7.5 acres
Total:	394	-	12.7 acres

Appendix 6. Summary of Planned Harvest/Thinning Activities 2002-2012

Stocking	Harvest		Commercial	TSI *	Total
	Unevenaged	Evenaged	Thinning		
> 100%	308	49	142	3	502
90-99 %	424	78	110	16	628
Total	732	127	252	19	1130

TSI= Timber Stand Improvement

APPENDIX 7. Past Harvesting Summary

		Past		Harvesting		Summary		1985	to	2001	
Year		#		Acres		Cords		MBF		Value	
1985		40		110		517		71		9150	
1986		19		147		790		160		15872	
1987		22		122		960		113		15705	
1988		13		75		502		84		9680	
1989		8		72		383		79		17667	
1990		16		56		528		21		5647	
1991		23		110		1088		46		12175	
1992		12		54		564		5		4785	
1993		16		111		936		14		12683	
1994		16		105		687		20		8799	
1995		26		113		846		34		10987	
1996		25		124		912		70		11380	
1997		12		53		315		26		4913	
1998		4		30		265		0		6350	
1999		8		59		269		1		3452	
2000		15		98		304		39		28362	
Total		275		1449		9865		782		177607	
Avg.		17		90		616		49		11100	

Appendix 8. Summary of Comments Public Meeting Feb. 28, 2001 Greenfield Community Center

Specific comments to Saratoga/Warren Co. State Forests:	8
Comments having no relation to these or any other State Forest areas:	17
Comments which were general in nature in relation to State Forest issues:	32
Total comments:	57

Issues Summary**

Motor vehicle use

1. ATV's	8
2. Snowmobiles	7
3. Other-general	2
Multiple Use Trails	5
Non-motorized Trail use	
1. Mountain bikes	3
2. Cross country skiing	1
3. General	2
Glass Factory Village Use	3
Picnic sites	2
Improve access/Parking lots	2
Handicap access	1
Buffer zone with private lands	1
Timber and wildlife management	1
Marking of trails & boundaries	2
Increase recreational facilities	2
Close short access roads	1
Trail signs	1*
Total is greater than 40 due to multiple comments by individuals.	44

Individual Public Comments

- Investigate re-opening of snowmobile trail to Wolf Rock Pond
- Thurman connection
- Remove barrier from Lewis Waite Road in Stony Creek
- Maintain Lake George Horse trails better
- Thurman connection

RESPONSE: The above four comments have no relation to the current UMP.

- State Forest continue as working forest and expand recreational and educational opportunities
- Motorized vehicle trails-develop more
- Handicapped accessible facilities
- Expand recreational facilities
- Access points and parking lots
- Consider land swaps
- Create cross country ski trails
- Keep snowmobile trails open
- Continue multiple use trails on State Forest
- Glass Factory trails
- Develop trail system around Glass Factory to preserve it
- Appropriate use at Glass Factory site- signage to help preserve site
- Create ATV trail system using snowmobile trail network
- ATV access to snowmobile trail system
- ATV access to Forest Preserve to retrieve game
- Create and disseminate ATV trail maps
- ATV registration $ should be used to build and maintain ATV trails
- More ATV trails on public land
- Create ATV trail network
- ATV trails don't need to be boulevards
- Seasonal use for ATV/snowmobile trails
- Designate new and existing snowmobile and ATV trails
- ATV/snowmobile trails recognize economic benefit
- Increase in ATV trails will foster creation of clubs to take care of the land
- ATV club adoption of trails has been successful on private land
- Prohibit year-round ATV use - snowmobile only season
- Multiple use trail system
- Follow Vermont's lead on multiple-use trails
- Increase funds for enforcement
- Consider larger buffer zone along private land/public land interface
- Difficulty level classification codes for trails
- Continue timber and wildlife management on State Forest
- Separate uses on some trails, multiple use on others
- Make snowmobile trails safer
- Lake Desolation - improve off-road cycling opportunities
- Make handicapped permit process easier
- Mark trails clearly/private and public land boundaries
- Mountain bike trails
- Continue cooperative effort between snowmobile clubs and DEC
- Inventory trails - multi-purpose

- some trails should be mountain bike specific. Handlebar width
- Consider non-motorized trails
- Consider 4WD Jeep trails
- Increase motorized vehicle trails where appropriate
- Close roads that are often used for dumping
- Mark state boundaries and facilities better
- Increase number of shorter trails and picnic sites
- Fire protection measures for all State Lands
- Publicize access points to public land
- Increase structured recreational facilities
- Educate trail group users how to protect trails and cooperate with other groups
- Improve trail signage on State land
- ATV use of snowmobile trails in winter destroys hours spent grooming (paid by the State) trails

SUMMARY OF WRITTEN COMMENTS

Thirty-seven people responded by e-mail or letter with written comments (42) on the proposed Unit Management Plan. Of these 26 comments favored increase development of trails for ATV or ORV vehicle use. Six comments favored increase development of trails for non-motorized use such as hiking, skiing or for horse trails. Three comments were directed to marking of hiking trails. Two comments favored use by snowmobiles on State Forest. One each commented on separation of use for trails (motorized vs. non-motorized) and cleaning up of debris within trails after logging. Three comments had no relation to the above plan.

The comments which supported more ATV and other motorized use of State Forests focused on the following;

COMMENT: A number of responders commented on the need to maintain the current use of old roads and trails for motor vehicle use.
RESPONSE: Although there are many old roads and trails scattered throughout the State Forest unit, none are currently open for use by motor vehicles except Cohen Road.

COMMENT: Many ATV users expressed the need to develop new ATV trails on State Forests.
RESPONSE: State forest are managed for multiple uses where no one use dominates a given area. Given the fact that this unit of 3,000+ acres is divided into 18 separate blocks, most sections are relatively small in size and do not lend them to such use.

COMMENT: Some people were interested in the development of new snowmobile trails.
RESPONSE: Currently a Stewardship Agreement is in place which allows the use of the main access road on Saratoga 1 for snowmobile use which connects existing public snowmobile trails in the area.. Other sections of State Forest are too small to allow such use.

COMMENT: One individual expressed the need to allow the Lake Desolation (Saratoga 4) State Forest to remain open for OHV use.
RESPONSE: This unit is not currently open for OHV use.

Comments in regards to non-motorized use of State Forests such as hiking, skiing and horseback riding are as follows.

COMMENT: A number of people commented on the need to mark trails.

RESPONSE: All new proposed trails will be marked when constructed. Other existing trails (unmarked) are present for other purposes, such as forest product removal, and although they can be used for hiking, are not officially designated trails.

COMMENT: One comment expressed the need for a pamphlet showing trails on State Forest.
RESPONSE: No marked trails currently exist on this State Forest unit. However, a brochure is planned which would show some of the features and history of the given unit, as well as any new trails that will be constructed.

COMMENT: Some interest was shown for the need of multiple use (non-motorized) trails.
RESPONSE: A number of trails have been proposed. See the management recommendations(Section VIII).

COMMENT: Keep motorized and non-motorized trails separate.
RESPONSE: Trails are and will be designated for specific uses, with motorized and non-motorized use being kept separate.

COMMENT: Keep logging debris off logging trails; require cleanup on logging contracts so that these trails can be used for hiking.
RESPONSE: All logging contracts require the cleanup of landing areas and main logging roads, with the use of Performance Bonding to insure compliance. Some small (under 4 inches in diameter) debris is left due to economic constraints. These trails are not designated for hiking or other uses, although allowed, so further debris removal is not required, nor practical.

COMMENT: State boundary lines should be marked.
RESPONSE: All boundary lines in this unit were marked during 1999-2000.

APPENDIX 9. Seed Orchard and Seed Production Areas

Area	Species	Location	Acres	Amount Collected	Remarks
SO# 15	Scotch pine (Boonville)	Multiple Use Area Daketown Road	12.2	131 BU. of cone 53 Lbs. of seed	Hardwoods need to be removed
SO# 17	Norway Spruce	Multiple Use Area Daketown Road	11.0	334 BU. of cone 243 Lbs. of seed	Area looks acceptable. Cone collected from squirrel caches
SO# 18	Japanese larch	Multiple Use Area Daketown Road	8.8	24 BU. of cone 19 Lbs. of seed	Hardwoods need to be removed.
SO# 19	Norway Spruce	Multiple Use Area Behind school	5.3	251 BU. of cone 116 Lbs. of seed	Area looks acceptable.
SO# 21	Japanese larch	Multiple Use Area Behind school	3.9	0 BU. of Cone 0 Lbs. of seed	Hardwoods and brush need to be removed.
SPA# 16	Balsam fir	Multiple Use Area Daketown Road	8.0	45 BU. of Cone 72 Lbs. of seed	Area needs thinning.
No #	Red pine	Multiple Use Area Daketown Road	>3.0	0 BU of Cone 0 Lbs. of Seed	Started 1993. Area looks acceptable.
No #	Red cedar	Multiple Use Area Daketown Road	>1.0	0 BU of Cone 0 Lbs. of Seed	Started 1994. Hardwoods need to be removed.

APPENDIX 10. Summary of Increment Borings of Black Gum on Saratoga 1

Information provided by Neil Pederson, Phd candidate at the Tree-Ring Lamont-Doherty Earth Observatory and Columbia University

TREE CORE	INNER YEAR	OUTER YEAR	MEASURED INNER	MEASURED OUTER	TOTAL RINGS
1a	1653	2000	1654	2000	347
1b	1623	2000	1640	2000	361
2a	~1700s	2000			
2b	~1700s	2000	1836	2000	165
2c	~1700s	2001			
3a	~1448	2000	1474	2000	527
3b	1534	2000	1540	2000	461
4a	1540	2000	1541	2000	460
4c	1492	2000	1493	2000	508
4d	1540	1774	1541	1773	233
4e	~1492	1575	1495	1574	80
5a		2000			
5b		2000			
6a	~1563	2000	1641	2000	
6b		2000			
6c	1559	2000	1640	2000	361
7a		2000			
7b		2000			
7c	1592	2000	1593	1979	387
8a	1759	2000	1760	2000	241
8b	~1700	2000			
9a		2000			
9b	1609	2000			
10a		2000			
10b	1759	2000			
11a	1619	2000	1620	2000	381
11b	1632	2000	1680	2000	321
12a	1541	2000	1542	1929	388
12b		2000			
13a	1523	2000	1524	2000	477
13b	~1550	2000	1571	2000	430
13c	1523	1698	1524	1697	174
14a	1548	2000	1549	2000	452
14b	1527	2000			
14c	1528	2000	1529	2000	472
15a		2000			

15b	1597	2000	1637	2000	364
15c	1743	2000	1744	2000	257
16a	1507	2000	1508	2000	493
16b	1528	2000	1529	2000	472
16c	1486	1609,			
16d	1528	1686	1529	1685	157
17a	1436	2000	1437	1679	243
17b	1524	2000			
18a	1510	2000	1500	1870	371
18b	1537	2000	1538	1932	395
19a	1525	2000			
19b	~1529	2000	1533	1672	140
20a	1623	2000	1637	2000	364
20b	1676	2000	1647	2000	354
20c	1677	2000			
21a		2000			
21b	~1720	2000			
22a	1493	2000	1494	1746	253
22b	1509	2000	1510	1919	410
22d	1509	1595	1509	1595	87
23a	1641	2000	1642	2000	359
23b	1602	2000	1604	2000	397
24a	1644	2000	1645	2000	356
24b	1641	2000	1642	2000	359
25a	1454	2000	1454	1611	158
25b		2000			
25c	1454	2000	1461	1630	170
26a	1571	2000	1572	2000	429
26b		2000			
27a	1538	2000	1539	2000	462
27b	~1478	2001	1520	1879	360
28a	1489	2000	1490	2000	511
28b	1540	2000	1541	2000	460
29a		2000			
29b		2000			
30a		2000			
30b	1806	2000			

APPENDIX 11. Caleb Sherman Cemetery on Saratoga 3 State Forest

Listing of Markers

1. Headstone 17" x 27" ; "In memory of Sarah Kellogg wife of Gideon Kellogg who died Feb. 26th 1815 in the 50th year of her age"

2. Headstone 19" x 30" ; " Mary wife of Caleb Sherman died Dec. 15 1842 aged 89 years 9 mo's & 15 days"

3. Headstone 17" x 28"; "Caleb Sherman died April 11th 1814 in the 71st Year of his life"

4. Headstone 9" x 11" ; "Mr. Caleb Sherman"

5. Headstone 9" x 10"; "M S"

6. Headstone ; "Ruhamah daughter of Jonathon & Charlotte James Died Dec. 11th 1804 in the 13th year of her age. Death is a debt to Nature due, Which I have paid and so must you"

7. Headstone ; "In memory of Polly Daughter of Jonathon and Charlotte James who died May 19th, 1788 in the 4th Year of her age. Electy died Feb. 16, 1797 Aged 5 months. The love of God, We must abide, Three of her infants, Lie side by side"

8. Cut fieldstone 10" x 18"; "R I"

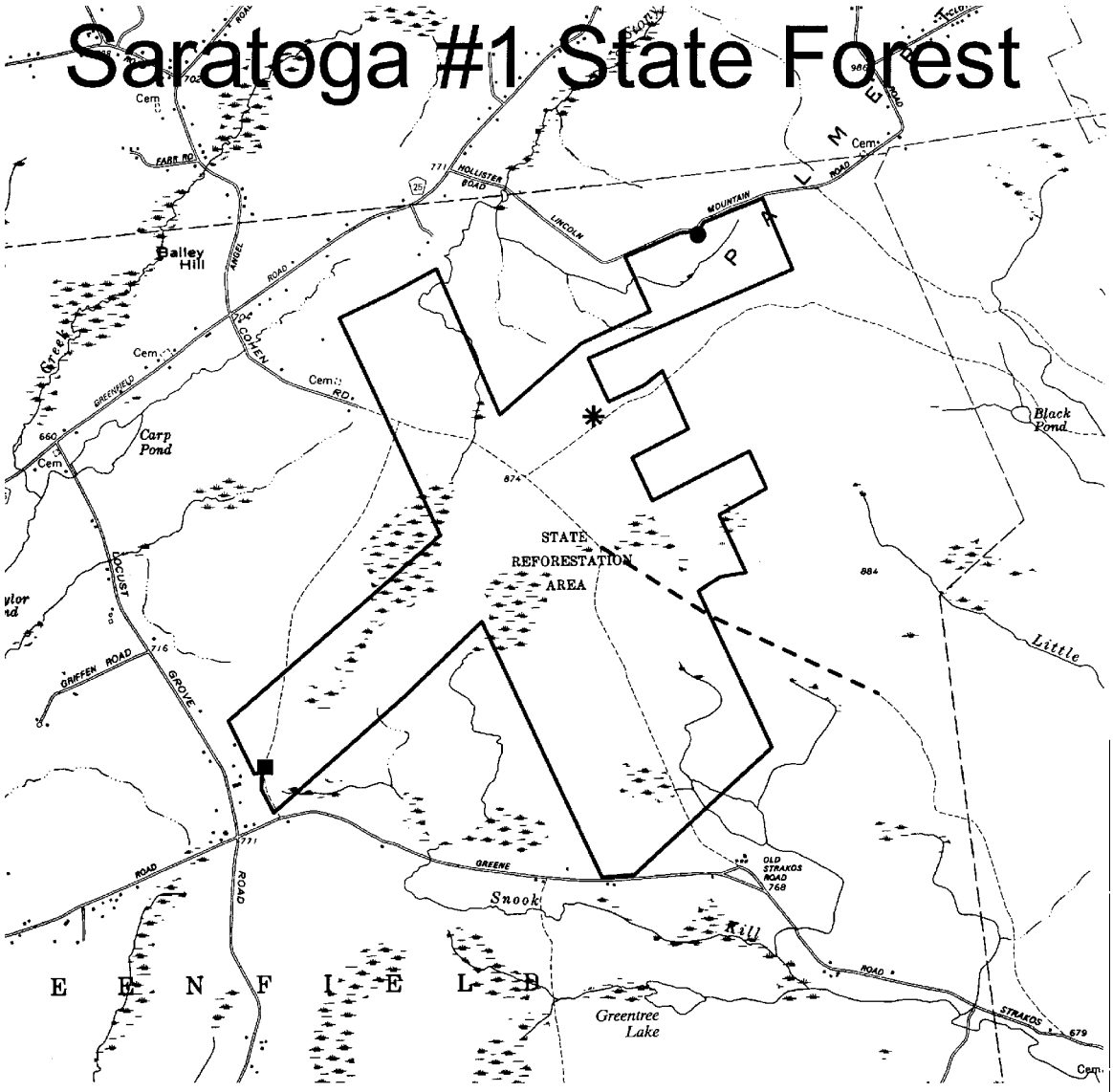
9. Cut fieldstone 9" x 7"; "E I"
10. Headstone 12" x12"; "P J & E J"

11. Fieldstone 10" x 7"; "R J"

12. Also there are 12 other fieldstone of various sizes with no markings.

Appendix 12. State Forest Proposed Facilities Maps (following)

Saratoga #1 State Forest



Existing and Proposed Facilities

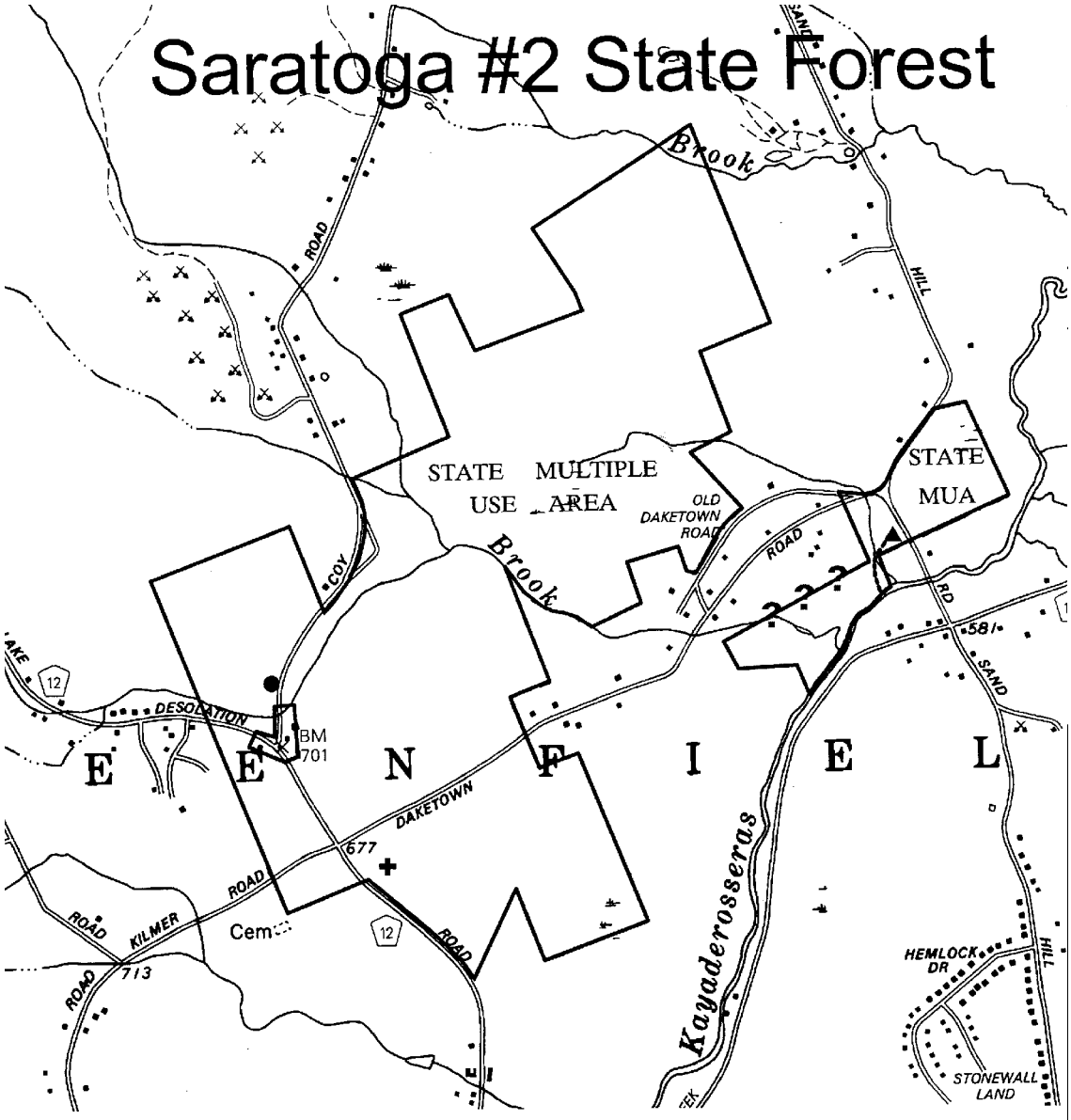
N

- Old road
- Old Well
- Proposed Barricade
- Proposed Barrier

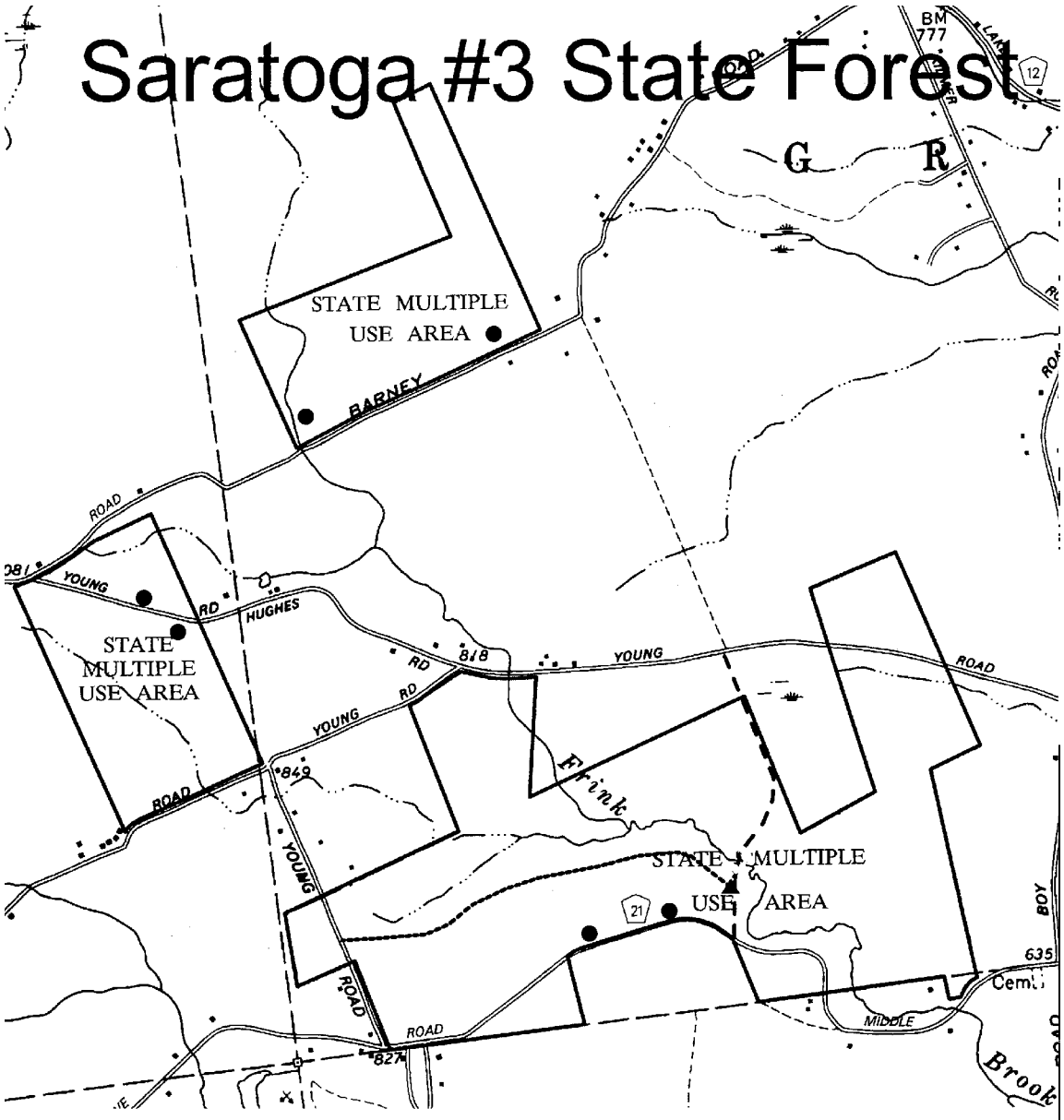
Public Land

STATE FOREST

0.6 0 0.6 1.2 Miles


Saratoga #2 State Forest
STATE MULTIPLE USE AREA
STATE MUA
OLD DAKETOWN ROAD
Brook
ROAD
HILL
COY
DESOLATION
BM 701
DAKETOWN
677
KILMER
713
Cem
12
E E N F I E L D
Kayaderosseras
HEMLOCK DR
STONEWALL LAND
581
SAND
RD
N
Existing and Proposed Facilities
Cemetery
Unclear Boundary
Proposed Trail
Proposed Barrier
Proposed Parking Lot
Public Land
STATE FOREST
0.3 0 0.3 0.6 Miles

Saratoga #3 State Forest

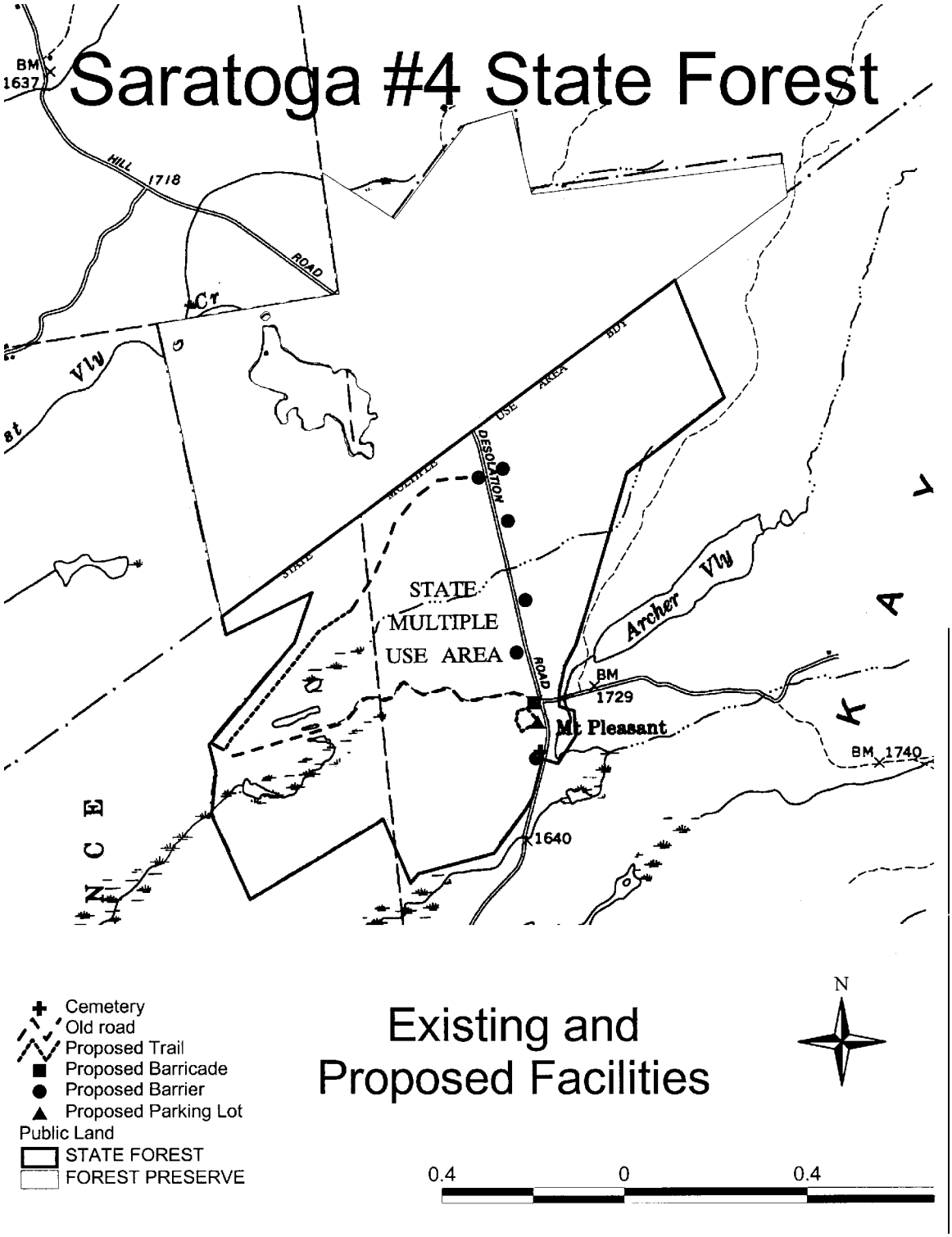


Existing and Proposed Facilities

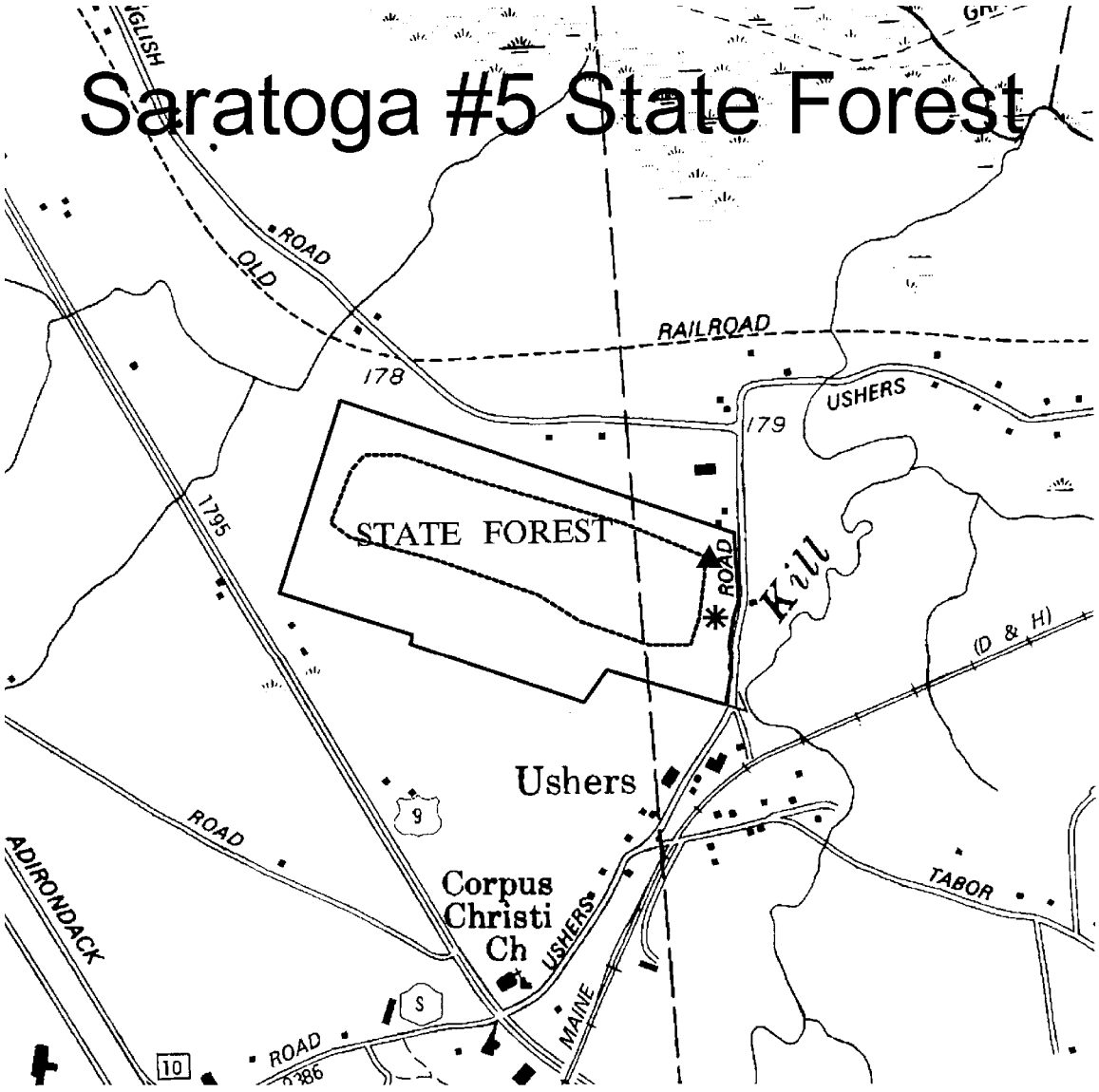
Old road
Proposed Trail
Proposed Barrier
Proposed Parking Lot
Public Land
STATE FOREST

N

0.3 0 0.3 0.6 Miles


Saratoga #4 State Forest
BM 1637
HILL 1718
ROAD
Cr
Vlw
DESOLATION
USE AREA
BDY
MULTIPLE
STATE
MULTIPLE
USE AREA
Archer Vlw
ROAD
BM 1729
Mt Pleasant
BM 1740
1640
Cemetery
Old road
Proposed Trail
Proposed Barricade
Proposed Barrier
Proposed Parking Lot
Public Land
STATE FOREST
FOREST PRESERVE
Existing and
Proposed Facilities
N
0.4
0
0.4

Saratoga #5 State Forest



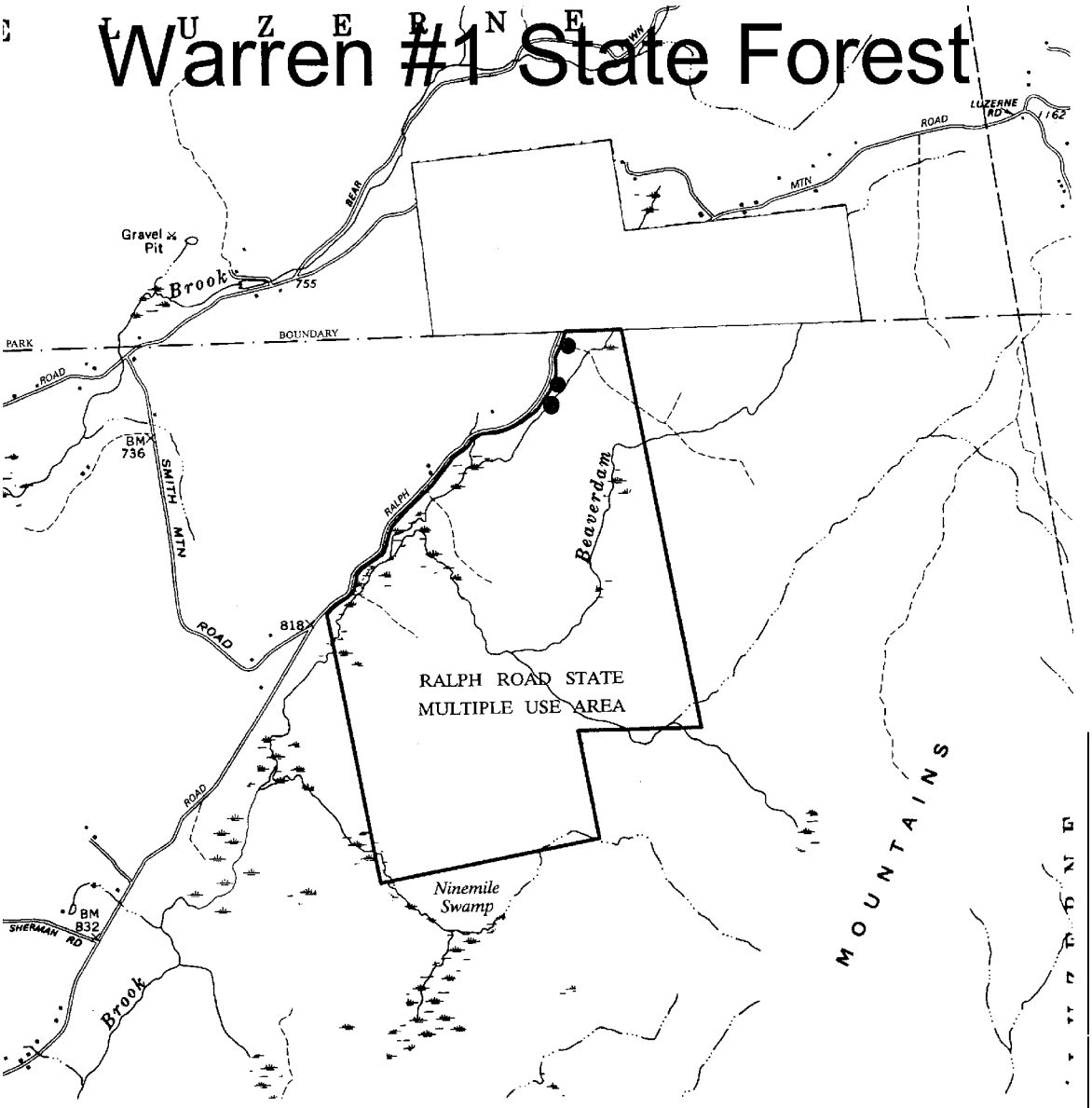
Old Well
Proposed Trail
Proposed Parking Lot
Public Land
STATE FOREST

Existing and Proposed Facilities

N

0.3 0 0.3 0.6 Miles

Warren #1 State Forest



Existing and Proposed Facilities

N

● Proposed Barrier

Public Land

STATE FOREST

FOREST PRESERVE

0.3 0 0.3 0.6 Miles

APPENDIX 13. Forest Type Maps

Note: See Appendix 5 for information on any individual stand**.**

Key to following maps:

Wetlands..... V V

Stream..... _____

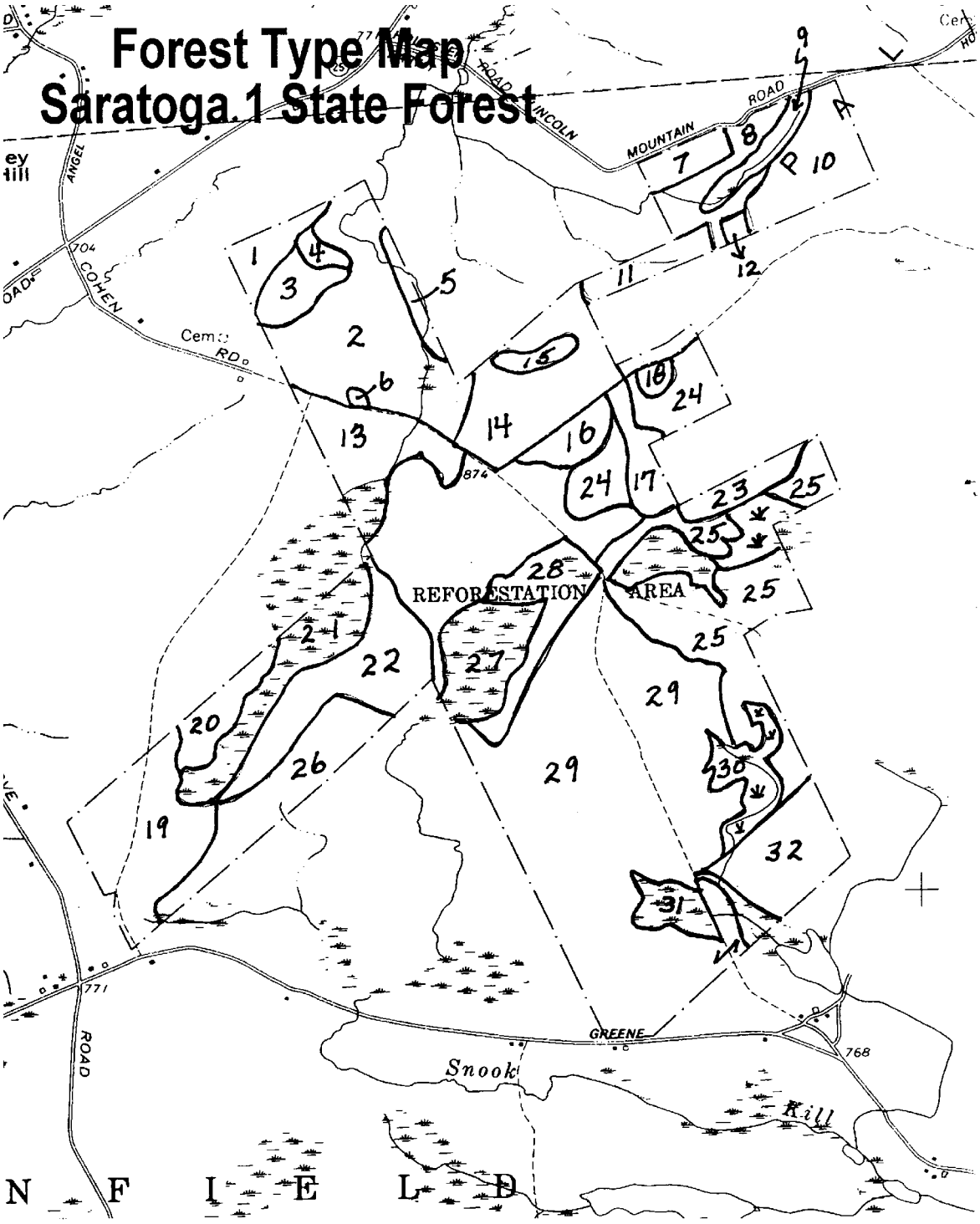
Access road.....- - - - - - - - -
or jeep trail

Mine..... X X

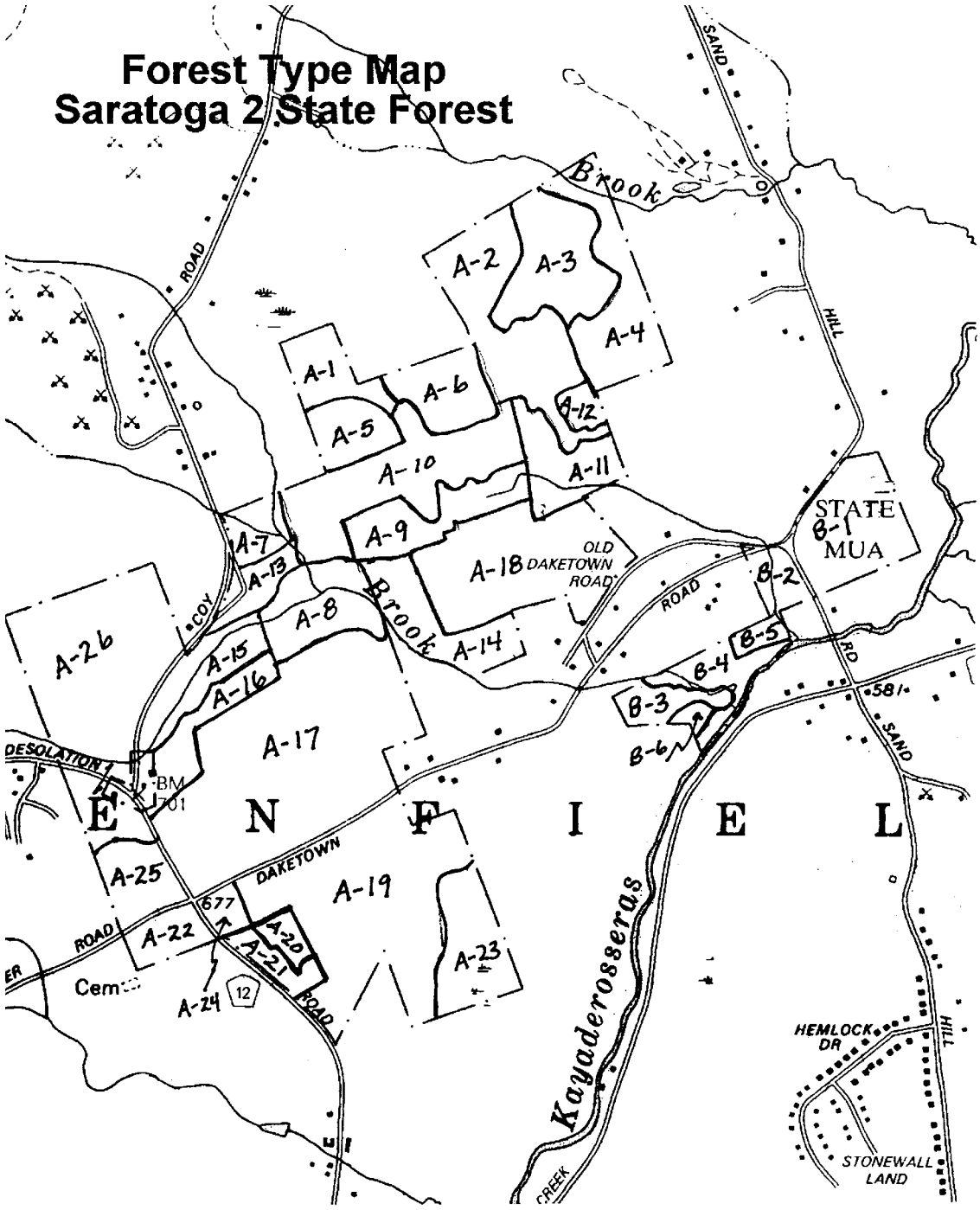
Buildings..... [] []

Forest Stand No..... A-1, B-2, or #22 etc.

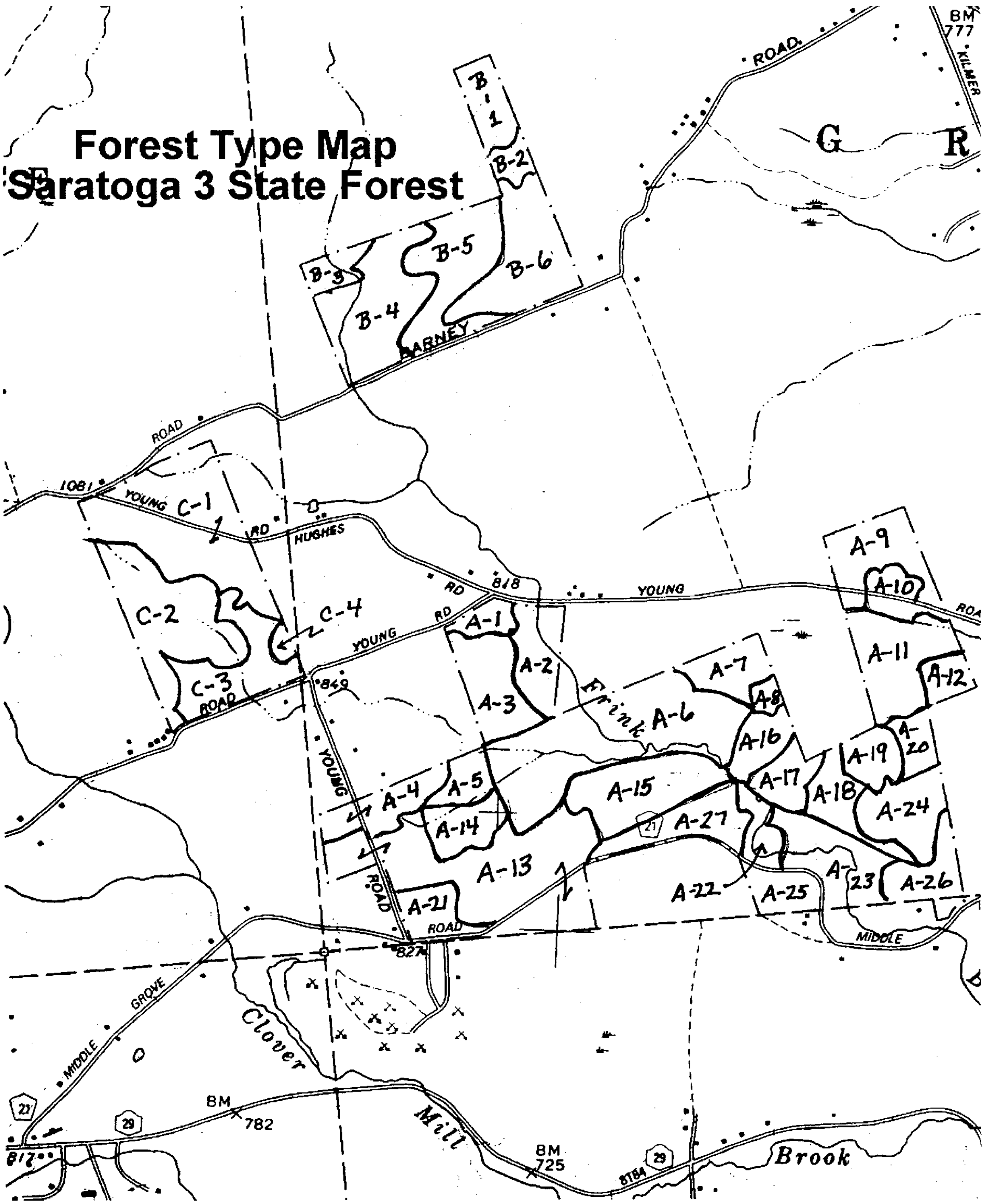
Forest Type Map
Saratoga 1 State Forest

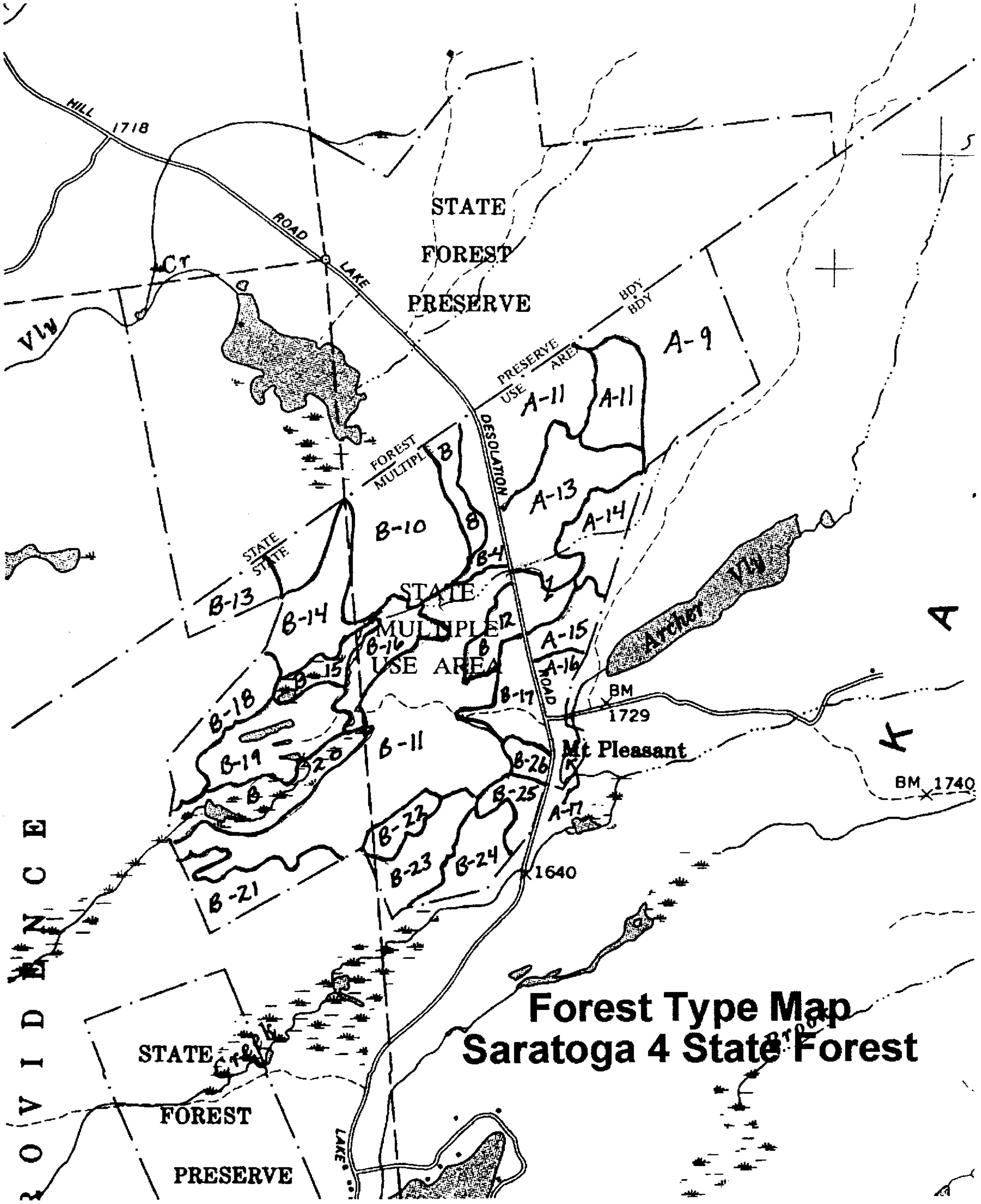


Forest Type Map
Saratoga 2 State Forest

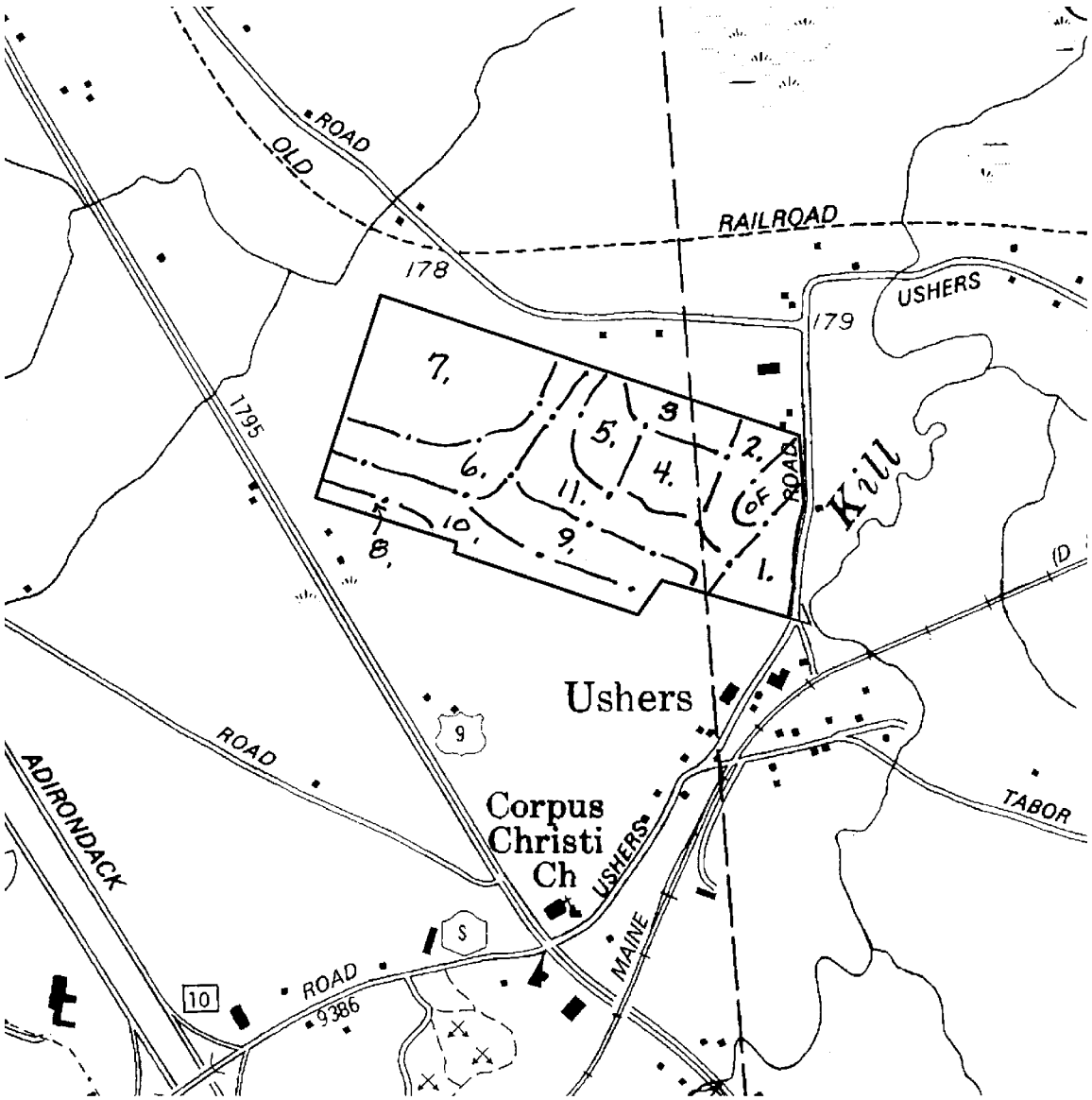


Forest Type Map
Saratoga 3 State Forest

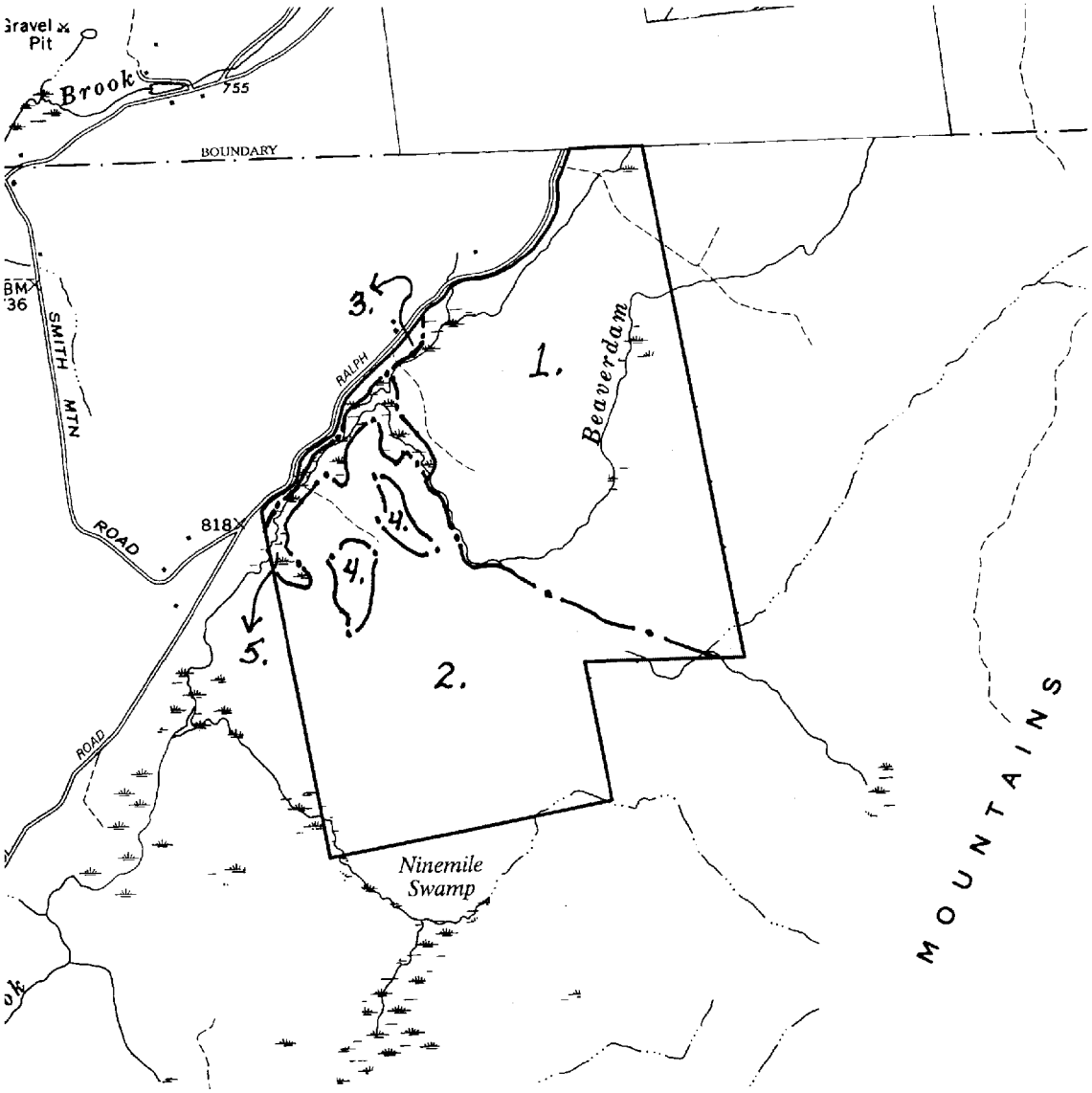




Forest Type Map
Saratoga 4 State Forest



Saratoga #5 State Forest
Forest Type Map



Warren #1 State Forest
Forest Type Map

APPENDIX 14. List of Forest Preserve Detached Parcels-Saratoga County

	Number	Town	Acres
1	13	Corinth	0.62
2	18	Corinth	16
3	19	Corinth	1
4	21	Galway	5
5**	22	Galway	52
6	23	Galway	13.64
7	27	Greenfield	11
8	30	Milton	4
9	31	Milton	1
10	33	Northumberland	10
11	34	Northumberland	0.5
12**	38	Providence	107
13	39	Saratoga	0.5
14	42	Wilton	1.04
15	44	Moreau	25
16	46	Wilton	0.115
17	47	Wilton	0.115
18	48	Wilton	0.115
19	49	Ballston	0.027
20	50	Ballston	0.11
21	52	Greenfield	12.5
22	53	Milton	4
23	54	Providence	10
24	55	Waterford	0.06
25	61	???	10

** Recommended for rededication as State Forest

APPENDIX 15: GLOSSARY OF TERMS

ALL-AGED. A condition of a forest or stand that contains trees of all or almost all age classes.

ALLOWABLE CUT. The amount of wood fiber that may be harvested annually pr periodically from a specified area over a stated period in accordance with the objectives of management.

BASAL AREA. The cross sectional area of a tree at breast height, measured in square feet.

BOARD FOOT. A piece of lumber one inch thick, 12 inches wide, and 12 inches long, or its equivalent.

BUFFER ZONE. Areas on the edge of protected areas that have land use controls and allow only activities compatible with protection of the core area.

CANOPY. The continuous cover of branches and foliage formed collectively by the crowns of adjacent trees.

CLASSIFIED STREAM. A classification of streams based on their biological and chemical composition. Most of the streams in this unit are classified "c(t)" or "c" for their ability to sustain trout populations.

CLEARCUT. A method of regenerating an even-aged stand in which a new age class develops in a fully exposed microclimate after removal, in a single cutting, of all trees in the previous stand.

CLIMAX FOREST. A plant community that represents for its locality and its environment the culminating stage of natural succession.

CONIFER. A cone bearing evergreen tree or shrub.

CULTURAL RESOURCE. Any building, structure, district, area, site or object including underground and underwater sites, that is of significance in the history, architecture, archaeology or culture of the State , its communities or the nation.

CUTTING INTERVAL. The number of years between harvest/regeneration cuts in a stand using the uneven-aged system.

DECIDUOUS. The falling off or to shed seasonally or at a certain stage of development in the life cycle.

DIAMETER AT BREAST HEIGHT (DBH). The diameter of a tree measured at 4.5 feet above the ground.

ECOSYSTEM. An ecological community of interacting plants, animals and microorganisms occupying an area, plus their physical environment.

ENDANGERED. Native plants and animals in danger of extinction throughout all or a significant portion of their range within the state and requiring remedial action to prevent such extinction.

EVEN-AGED. A forest stand composed of trees of about the same age, or generally within 10-20 years.

EXOTIC. An organism that exists in the free state in an area but is not native to the area.

EXTINCT. Species that are no longer known to exist in the wild after repeated search of their type of locality and other locations where they were known or likely to have occurred.
FOREST. Communities formed by trees with a canopy cover of at least 61 percent or more at maturity, with tree crowns generally interlocked.

FOREST SUCCESSIONAL STAGES. The various stages of forest stand growth and development ranging from seedling-sapling to mature trees.

HARDWOOD. Broadleafed trees, deciduous. Also refers to the wood produced by these trees.

LOG LANDING. A place within a timber harvesting operation where logs are assembled for transporting to the mill.

MBF. . One thousand board feet of lumber.

MMBF. One million board feet of lumber.

MULTIPLE USE. A strategy of deliberate land management for two or more purposes which utilizes, without impairment, the capabilities of the land to meet different demands simultaneously.

NATURAL STAND. A stand established and recreated by the germination of seeds from natural sources or other natural vegetative methods.

OLD AGE FOREST. A relatively undisturbed stand of trees where the average age is over 300 years.

OVERSTORY. That portion of the trees in a forest of more than one story forming the upper or uppermost canopy layer.

PIONEER. A plant species capable of invading bare sites with full sunlight and persisting there until supplanted by successor species.

PLANTATION. A forest established by planting of seeds or seedling trees by man.

POLETIMBER. Generally trees with a diameter of 6 to 11 inches at 4.5 feet above the ground.

PROTECTION FOREST. Forest lands excluded from active wood production management and some recreational practices to protect sensitive sites. These sites are commonly steep slopes, wetlands or riparian zones along stream corridors.

RARE. Native plants that have from 20 to 35 extant sites or 3,000 to 5,000 individuals statewide.

REGENERATION/REPRODUCTION. The act of replacing older trees in a forest stand, either naturally or artificially. Also refers to the new growth that develops.

RELEASE. Freeing a tree or a group of trees from more immediate competition by cutting or eliminating growth that is overtopping or closely surrounding them.

RIPARIAN. Related to, living or located on the bank of a natural watercourse, usually a river, stream, lake, pond, or tidewater.

ROTATION. The period of years required to grow a crop of timber to the optimum size or age.

SALVAGE CUTTING. The harvest of dead, dying, damaged, or deteriorating trees primarily to utilize this wood for forest products before it loses its economic value.

SAPLING. Generally trees 1" to 5" in diameter at 4.5 feet above the ground.

SAWTIMBER. Generally tree 12" and larger in diameter at 4.5 feet above the ground.

SEEDLING. A tree grown from seed, generally describes a young tree before it reaches the sapling stage. Also, in a nursery practice, a tree that has not been transplanted in the nursery.

SELECTION CUT. The removal of trees over the entire range of size classes either singly or in groups at relatively short intervals, resulting in continuous establishment of reproduction, and the perpetuation of an uneven aged stand. Individual trees are chosen for removal due to their maturity, poor quality or the need for thinning to improve stand growth rate.

SELECTION SYSTEM. An uneven aged system which removes the mature and immature trees either singly or in groups at given intervals. Regeneration is continuous.

SHELTERWOOD SYSTEM. An even-aged system which removes the mature stand in a series of cuts. Regeneration of the new stand occurs under the cover of a partial forest canopy.

SHELTERWOOD CUT. The removal of the mature timber in a series of cuts which extend over a relatively short portion of the rotation, by means of which the establishment of essentially even-aged reproduction under the partial shelter of seed trees is encouraged.

SILVICULTURE . The art of producing and tending a forest; the application of knowledge of silvics in the treatment of a forest; the theory and practice of controlling forest establishment, composition and growth.

SKID TRAIL. The trail used to drag, or skid trees from the stump to the landing.

SOFTWOOD. Needle bearing trees. See conifer. Also, refers to the lumber derived from these trees.

STAND. A contiguous group of trees sufficiently uniform in species composition, arrangement of age classes, and condition to be a homogenous and distinguishable unit.

SUCCESSION. The gradual supplanting of one community of plants and animals by another, from pioneer to climax.

SUSTAINED YIELD. The continuous production with the aim of achieving, at the earliest practicable time , an approximate balance between net growth and harvest, either by annual or somewhat longer periods.

THINNING. A cutting made to reduce stand density of trees primarily to improve growth, enhance forest health or to recover potential mortality.

THREATENED. Native plants and animals that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range in the state.

TIMBERSTAND IMPROVEMENT (TSI). Precommercial thinning of forest stands, intended to control stand density and species composition while improving stand quality and fostering individual tree health and vigor.

TOP LOPPING. The cutting of limbs from the tops of felled trees to a specified height above the ground to reduce fire danger, speed up the decaying process of the logging debris, and to improve the aesthetic appearance of the stand.

UNDERSTORY. Generally those trees and woody species growing under an overstory.

UNEVEN-AGED STAND. A stand which contains at least three age classes intermingled intimately on the same area.

UNEVEN-AGED. A class of forest or stand composed of intermingled trees or groups of trees that differ markedly in age.

WATERSHED. Drainage basins or catchments which possess physical, chemical or biological properties that give it a unique set of hydrological characteristics.

WETLAND CLASSES. A system of classification set forth in ECL Article 24, Section 664.5 which ranks wetlands I through IV based upon wetland function and benefits, I being the highest rank.

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