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Information on the Unit

A. Geographic and Geological Information

The Leatherstocking Management Unit is located in the Towns of Edmeston, Hartwick, Plainfield, Richfield, Exeter, Burlington, Otsego and New Lisbon, all of which are in Otsego County. The unit lies south of New York State Route #20, west of New York State Routes 28 and 205, and is east of the Unadilla River and north of Gilbert Lake State Park (which lies along the southern boundary of the Town of New Lisbon).

Five State Forests comprise the unit:

Otsego #3 - Hartwick State Forest	- 1242 acres
Otsego #5 - Exeter State Forest	- 1957 acres
Otsego #6 - Basswood Pond State Forest	- 711 acres
Otsego #8 - Plainfield State Forest	- 1403 acres
Otsego #12 - Texas School House State Forest	- 1245 acres
Total for Leatherstocking Unit	- 6558 acres

The name "Leatherstocking Unit" was inspired by the area's historical link to author James Fenimore Cooper, and his famous "Leatherstocking Tales" which were set in the pristine wilderness of early Otsego County.

The unit is on the northern Allegheny Plateau with elevations ranging from approximately 1600 feet to 1980 feet above sea level. The underlying rocks are of sedimentary origin and were deposited during the Paleozoic

era, which began approximately 600 million years ago. Sedimentary rocks are ones which were formed from sediments (sand, silt, clay or gravel) being deposited in the bottoms of lakes, rivers or oceans. Some sediments, those which have formed limestones, are made up of the remains of ancient shells. These shells came from shellfish which inhabited ancient tropical seas that once covered the area now occupied by the Leatherstocking Unit. Generally speaking, the shales and limestones of this unit range in age from 370 to 400 million years old.

Once the sedimentary rocks were formed, the area underwent little geological change until the Cenozoic Era (beginning approximately 65 million years ago). During that era, the major modern landscapes that are now present in the State of New York came into being, principally through the forces of erosion. From approximately 100 thousand years ago until about 15 thousand years ago, most of North America, including the area of the Leatherstocking Unit, was buried under glacial ice. The last was the Wisconsin Glacier, which began retreating approximately 16 thousand years ago. The glacier left behind gently rolling flat topped hills, interspersed with low lying river valleys. Steep side slopes and ravines are found adjacent to water courses, and swamps and wetlands are scattered throughout the unit.

The majority of the soils on the unit are predominantly: Lordstown Gravelly Silt Loam, Manlius Shale Loam (steep phase), Wooster Gravelly Silt Loam, Otsego Gravelly Silt Loam.

Other soils on the unit are: Volusia Silt Loam, Chippewa Silt Loam, Otisville Gravelly Loam, Langford Gravelly Silt Loam, Alluvial Soils (undifferentiated).

The general characteristics of these soils cover a broad range of conditions: they range from shallow to moderately deep, are generally medium textured, and are found on slopes that are glacial till derived from shale, sandstone or limestone. These soils have limitations including seasonal high water table, shallow depths to fragipan, drought conditions during dry periods, low fertility, high acidity and erodibility on steeper slopes. These limitations effect plant growth, and management activities such as forest road and trail construction, the location of recreational facilities, the harvesting of forest products and the establishment of conifer plantations.

B. Vegetative Types & Stages Within the Unit

Acreage of vegetative types within the unit:

Vegetative Type	Acres	Seedling Sapling 0-5"	Intermediate Trees 6-11"	Large Trees 12"+	Percentage
Nat. Hdwds.	2207	308	1397	502	34
Mixed/Hdwds. Conifers	624	0	470	154	9
Conifer Plantations	3206	45	2294	867	49
Open/Brush	218				3
Wetlands	242				4
Ponds	57				1

Other-Shale Pits	4				
TOTAL	6558	353	4161	1523	100

The above data was compiled from existing inventory records.

“Natural hardwoods” contain trees that have been established through natural regeneration of new seedlings. Some common hardwood species include sugar maple, red maple, beech, red oak, white birch, basswood, white ash and black cherry.

“Mixed hardwoods/conifers” contain trees that have been established naturally and are composed of at least 10% white pine, Eastern hemlock or red spruce.

“Conifer plantations” contain trees established by mechanical means. These stands contain red, Scotch, white or jack pine, European or Japanese larch, Norway or white spruce, white cedar, balsam or Douglas fir.

C. Wildlife

Otsego County lies at the eastern end of the Central Appalachians ecozone. The unit is characterized by mixed hardwood and hardwood/conifer stands and conifer plantations in various age classes. The terrain throughout the area is rolling hills, interspersed with numerous stream and river valley bottom lands. The state forests are generally at the higher elevations. The area is enriched by the presence of many scattered wetlands and small

ponds. This variety of habitat provides for bio diversity of wildlife species on the Unit, including many game species.

No formal wildlife survey has been done on the area. Chambers, in his handbook Integrating Timber and Wildlife Management (1983), compiled an extensive list of wildlife presumed to live within the Central Appalachians ecozone. He further qualified his list by categorizing wildlife species by forest type, forest stage and special habitat needs. Based on these understandably general characteristics, 49 species of mammal, 19 species of reptiles, 22 species of amphibians and 122 species of birds are likely to be found on the Leatherstocking Wild Forest.

Records compiled from 1980-85 for The Atlas of Breeding Birds in New York State (1988) lists all bird species that are considered possible, probable or confirmed breeders in any given Atlas block surveyed. For blocks in northwestern Otsego County, 133 species were identified. (See Appendix V).

The small ponds and wetlands on the area provide breeding habitat for a variety of amphibians. Frogs, toads and salamander species, in which the adults live in burrows and under logs in the forest, need permanent or semi-permanent bodies of water where the eggs are laid and the larval stages develop. The ponds, which retain their water for most of the year and lack a population of fish which would prey upon the eggs and young, are especially valuable for these species. The presence of these areas in the Leatherstocking State Forest increases the species diversity of the Unit.

In the early 1950's a marsh pond was constructed on the Plainfield State Forest portion

of the Leatherstocking Unit. The pond is approximately 7.5 acres in size, and lies south of Exeter Road and west of Mason Road. The pond has become a focal point for various recreational uses, and provides habitat for many varieties of plant and animal species. At the present time, the dike and drainage structures for the pond are in need of repair. In the interest of safety, the pond level has been lowered and currently remains approximately two to three feet lower than historical levels.

The many streams in the area and the young stages of many of the forest stands provide a large amount of potential beaver habitat. Beaver impoundments add to the habitat diversity of the Unit, but also have the potential for conflicts with human uses.

White-tailed deer are an important component of the Unit's fauna. The Department of Environmental Conservation (DEC) collects data from returned tags of successful hunters to determine the number of deer which were taken during each hunting season. From this data the number of bucks taken per square mile is calculated. This data is then used to estimate the total deer population at the county, town and Deer Management Unit (DMU) levels. A Citizen's Task Force has been organized for each DMU. The 1997 deer harvest for the Towns of Plainfield, Richfield, Exeter, Burlington, New Lisbon and Otsego was 1,465, of which 841 were bucks. For Deer Management Unit 68, which includes most of Otsego County, the deer take in 1997 was 5,950. 3,275 bucks were taken, or 3.4 per square mile. For management purposes, the desired buck harvest rate for DMU 68 is 3.4. The deer herd is somewhat uniformly distributed throughout the Unit, although more deer are probably found at the lower elevations in lowland valleys where agricultural activities are concentrated.

Otsego County is midway between the Adirondack and Catskill Black Bear ranges.

Transient bears are seen infrequently, when they move through the area. A bear is occasionally shot illegally in Otsego County during the big game season, incidental to the deer harvest.

Because ecozone characteristics, more specifically the composition and structure of forested habitats therein, exert a strong influence on the distribution and abundance of wildlife species within an area, it is appropriate to manage these resources at the ecozone level. Large-scale wildlife habitat management at the ecozone level is accomplished through forest management programs.

D. Wetlands and Water Resources

The Leatherstocking Unit contains all or part of five regulated wetlands under the statutory provisions of the ECL Sections 3-0301 and 24-1301. Nineteen other unregulated wetlands totaling 181 acres occur on the Unit.

Wetlands

<u>Reforestation Area</u>	<u>Stand</u>	<u>Acres</u>	<u>Status</u>	<u>Catalog No.</u>
Otsego RA #3	A-7	22	Unprot.	Wet. Alder
Otsego RA #3	A-18	3	Unprot.	Wet. Alder
Otsego RA #3	B-4	5	Unprot.	Wet. Alder
Otsego RA #3	B-37	11	Unprot.	Pond
Otsego RA #6	A-16	5	Unprot.	Wet. Alder
Otsego RA #6	A-25	16	Unprot.	Pond
Otsego RA #6	A-27	6	Unprot.	Brushy Wet.
Otsego RA #6	A-37	11	Unprot.	Pond
Otsego RA #8	A-11	7	Unprot.	Pond
Otsego RA #8	A-26	24	Prot.	UF-5
Otsego RA #5	B-7	18	Unprot.	Wet. Open
Otsego RA #5	B-10	19	Unprot.	Wet. Alder
Otsego RA #5	B-13	15	Unprot.	Wet. Alder
Otsego RA #5	B-41	13	Prot.	SY-9
Otsego RA #5	C-1	4	Unprot.	Wet. Alder
Otsego RA #5	C-9	4	Unprot.	Wet. Alder
Otsego RA #5	D-18	2	Unprot.	Wet. Alder
Otsego RA #5	D-23	5	Unprot.	Wet. Open
Otsego RA #5	D-35	2	Unprot.	Wet. Alder
Otsego RA #5	D-36	4	Unprot.	Wet. Alder
Otsego RA #12	A-5	2	Unprot.	Wet. Alder
Otsego RA #12	A-11	5	Prot.	HW-29
Otsego RA #12	A-22	4	Unprot.	Wet. Open
Otsego RA #12	A-30	11	Unprot.	Wet. Alder
Otsego RA #12	B-12	10	Prot.	HW-28
Otsego RA #12	B-20	4	Unprot.	Wet. Open
Otsego RA #12	B-34	9	Prot.	HW-27
Total Acres --		242		

E. Endangered, Threatened and Special Concern Species

No threatened or endangered plant or animal species have been identified on the Unit. The Element Occurrence Records and the Natural Heritage Significant Habitat Maps were consulted to make this determination.

Some species of special concern (those not yet recognized as threatened or endangered but for which documented concern exists for

their continued welfare in New York) can be found in the county. These include the Jefferson/Blue-spotted salamander, spotted and wood turtles, cooper's hawk, upland sandpiper, eastern bluebird, Henslow's vesper and grasshopper sparrows, and small-footed bats. Some of these species may frequent the Unit. Observers have reported the presence on the Unit of the northern goshawk, red shouldered hawk and northern shrike.

Streams

The Leatherstocking Unit encompasses a portion of Otego Creek and portions of 20 unnamed streams, some of which provide sportfishing opportunity. Most streams within the Unit, are intermittent and have never been surveyed. Many others are warm and do not support trout populations. Three streams on Otsego #3, one on Otsego #5 and one on Otsego #12 are known to support wild trout populations.

Fishery Resources - State Reforestation Area #3

Streams

<u>STREAM</u>	<u>NUMBER OF MILES ON STATE LAND</u>		<u>WATER QUALITY CLASSIFICATION AND STANDARD</u>			<u>GAME SPECIES</u>	<u>YEAR SURVEYED</u>
			<u>CLASS</u>	<u>STAN</u>	<u>PRESENT</u>		
Unnamed stream (SR-172-40)	0.4 mi.	C	C(ts)		Brook trout	1975	
Unnamed stream (SR-172-40-1)	0.5 mi.	C	C(t)		None	1975	
Otego Creek (T40-T42) (SR-172)	1.3 mi.	C	C(t)		Brook trout, Brown Trout	1972	
Unnamed stream (SR-172-29-6-1)	0.1 mi.	C	C		Unknown		
Unnamed stream (SR-172-34a)	0.05 mi.		C	C(ts)	Brook trout	1986	

Fishery Resources - State Reforestation Area #5

Unnamed stream (SR-204-P392-1)	2.0 mi.	C	C		Brook trout	1985
Unnamed stream (SR-204-P392-1-5-1)	0.7 mi.	C	C		Unknown	
Unnamed stream (SR-204-P392-1-5b)	0.08 mi.		C	C	Unknown	
Unnamed stream (SR-204-P392-1-4)	0.38 mi.		C	C(t)	Unknown	
Unnamed stream (SR-146-36-35-2)	0.08 mi.	C	C		Unknown	
Unnamed stream (SR-146-36-26-6-1)	0.04 mi.		C	C	Unknown	
Unnamed stream (SR-146-36-26-7)	0.04 mi.	C	C		Unknown	

Fishery Resources - State Reforestation Area #8

<u>STREAM</u>	NUMBER OF MILES ON STATE LAND		WATER QUALITY CLASSIFICATION AND STANDARD			GAME SPECIES	YEAR <u>SURVEYED</u>
			<u>CLASS</u>	<u>STAN</u>	<u>PRESENT</u>		
Unnamed stream (SR-146-36-30)	0.1 mi.		C	C		Unknown	
Unnamed stream (SR-146-36-30-1)	0.5 mi.	C	C			Unknown	
Unnamed stream (SR-146-36-25)	1.2 mi.		C	C(t)	None		1975
Unnamed stream (SR-146-36-25-1)	0.1 mi.	C	C(t)	None			1975
Unnamed stream (SR-146-36-25-2)	0.5 mi.	C	C			Unknown	
Unnamed stream (SR-146-36-23-1)	0.6 mi.	C	C(t)	None			1975

Fishery Resources - State Reforestation Area #12

Unnamed stream (SR-172-29-4-1)	0.9 mi.		C	C		Unknown	
Unnamed stream (SR-172-29-4-1-1)	1.2 mi.	C	C(t)	None			1975
Unnamed stream (SR-172-29-4)	0.2 mi.		C	C(ts)	Brook trout Brown trout		1975

Fishery Resources - State Reforestation Area #6

Unnamed stream (SR-146-9-55)	0.6 mi.		C	C(t)	None		1975
Unnamed stream (SR-146-36-26-1)	0.4 mi.	C	C(t)	None			1975

Ponds

Basswood Pond, on Otsego #6, was designed and built in 1959 to provide pond fishing opportunity for trout in northern Otsego County where such opportunity is rare. It comprises 15 surface acres, has a maximum elevation of 1740' and drains a very small watershed. Cool temperatures associated with high elevations are conducive to good trout growth and survival. Headwater trout ponds with little or no watershed are less likely to be contaminated

with non-trout species than ponds with large tributary systems.

Competition from non-trout fish reduces trout growth and survival to such low levels that trout management becomes impractical. In Basswood Pond rainbow trout stocked in October at an average length of 4.5 inches typically attain an average length of 12.0 inches by age 2 if competitive species are absent. Competition from an abundant non-trout fish population could reduce growth rates of trout by 50-75%.

To maintain the quality of the trout fishery in the pond, non-trout fish populations must be periodically eliminated using fish toxicants such as rotenone. Fish toxicants have been used in Basswood Pond in 1968, 1972, 1982 and 1993. Annual trout stocking is required to sustain the fishery.

Angling regulations include a 10 inch minimum length limit and a 3 fish daily limit for trout. The use of fish as bait is prohibited. Basswood Pond supports an estimated 750-1500 angler trips during the open season on trout.

F. Roads

The State Forest road system provides for both public and administrative access to the Unit. The roads are constructed to standards that will provide reasonably safe travel and keep maintenance costs at a minimum. There are three types of roads - public forest access roads, haul roads and access trails - and they provide different levels of access, depending on the standards to which they are constructed.

Public Forest Access Roads are permanent, unpaved roads. They may be designed for all-weather use depending on their location and surfacing. These roads provide primary access within the Unit. The standards for these roads are those of the Class A and Class B access roads as provided for in DEC's Forest Road Handbook.

Haul Roads are permanent, unpaved roads but are not designed for all-weather travel. They are constructed primarily for the removal of forest products and provide only limited access within the Unit. As such, these roads may or may not be open for public use. The standards for these roads are those of Class C roads as provided for in the Forest Road Handbook.

Access Trails may be permanent, are unpaved and do not provide all-weather access within the Unit. These trails are designed for removal of

forest products and may be used to meet other management objectives such as recreational trails. These trails are constructed according to DEC's Best Management Practices.

The following roads are located within the Unit: (See Appendix II)

Public Forest Access Roads

Otsego RA #5 - 1.4 miles
Otsego RA #6 - 1.1 miles
Otsego RA #8 - 1.4 miles
Otsego RA #12 - 1.2 miles

Haul Roads

Otsego RA #3 - 2.4 miles
Otsego RA #5 - 3.0 miles
Otsego RA #6 - 2.8 miles

Access Trails

Otsego RA #3 - 1.0 miles
Otsego RA #5 - 6.0 miles
Otsego RA #6 - 1.5 miles
Otsego RA #8 - 1.4 miles
Otsego RA #12 - 1.9 miles

State, Town and County Roads

Otsego RA #3:

NYS Route 80
Cranberry Bog Road
Dana Clark Road
Scotch Hill Road
State Land Road
Whalen Hill Road
Zackow Road

Otsego RA #5:

County Route 23
County Route 24
Allen Road
Curley Road
Hinds Road

Otsego RA #6:
Basswood Road
Clarence Harris Road
Jacobs Road

Hunting
Trapping
Fishing
Hiking
Horseback Riding
Nature Observation
Cross-country skiing
Camping
Snowmobiling
Mountain Biking

Otsego RA #8:
Adams Pond Road
Billy Cursh Road
Hughes Road
Mason Road
Stanton Road

Designated Facilities - Otsego RA #3

There is a portion of the snowmobile corridor trail which traverses Otsego #3 near State Route 205.

Otsego RA #12:
Bert Jones to Stevens Corner Road
Lena to Tom Stevens Corner Road
Mertons Road

Designated Facilities - Otsego RA #5

There is a portion of a snowmobile trail which traverses Otsego #5 near Allen Road and near County Route #24.

Designated Facilities - Otsego RA #6

Road Regulations

Maximum speed limit on Public Forest Access Roads is 25 m.p.h. Section 190.8(m) of the New York Code Rules and Regulations, Title 6 states: "Use of motor vehicles on State land under the jurisdiction of the Department of Environmental Conservation outside the Forest Preserve is prohibited, except where specifically permitted by posted notice or by permit issued by the Department." The DEC sign "Motor Vehicle Trail" shall be the posted notice permitting motor vehicle use on the Forest Access Roads on this unit.

Basswood Pond Day Use Area - a picnic area and a site accessible to people with disabilities for fishing are maintained adjacent to Basswood Pond.

H. Other Assets

Boundary Lines:

Otsego RA #3 - 11.7 miles
Otsego RA #5 - 15.0 miles
Otsego RA #6 - 7.0 miles
Otsego RA #8 - 11.2 miles
Otsego RA #12 - 10.3 miles
Total - 55.2 miles

No trails or haul roads are posted for vehicular use. Vehicles are permitted only on the public forest access roads and town roads on the Unit.

State Forest Identification Signs (See Appendix II):

Otsego RA #3 - 4
Otsego RA #5 - 3
Otsego RA #6 - 2
Otsego RA #8 - 3
Otsego RA #12- 3

G. Recreation

Varied recreational opportunities exist throughout the unit including:

Aspen Management Project Sign (See Appendix II)

Otsego RA #12

Gates: (See Appendix II)

Otsego RA #3 - 2

Otsego RA #5 - 1

Otsego RA #8 - 1

Otsego RA #12 - 2

Cemeteries: (See Appendix II)

Otsego RA #3 - 1

Communication Tower: (See Appendix II)

Otsego RA #8 - 1

I. Other Uses

Shale Pits (See Appendix II)

Otsego #5 - 1

Otsego #6 - 1

Otsego #12- 2

The shale from these pits is occasionally used to surface the public forest roads on these areas. When shale from any of these pits has been depleted or when the pits are no longer needed, the pits will be reclaimed according to the plan in Appendix VI. The shale pits on this unit will not be ready for reclamation within the next 20 years.

J. Property Records

Deeded Right-of-way

Otsego RA #3

Proposal G - water rights to spring reserved

Proposal I - supplemental ROW to private land

Otsego RA #5

Proposal L - ROW to private land

Otsego RA #6

Proposal A - ROW to sugarbush on north end of area

Otsego RA #8

Proposal A - water rights to a spring

Proposal K - water rights to a spring

Proposal L - Two acre lease to Otsego

County for communication tower.

Otsego RA #12

Proposal A - ROW from reservation

Proposal B&B-1 - ROW for telephone company

Proposal H - Oil and gas lease reserved.

K. Archaeological and Historical Sites

Although the New York State site location map lists no known archaeological or historical sites on the Unit, there is one cemetery and there are numerous old house foundations and stone walls located on the Unit. (See Appendix III).

Protection of cultural resources of historic significance is provided for under the New York State Historic Preservation Act. Procedures for review and assessment of impacts are provided under the State Environmental Quality Review Act. Assistance in reviewing sites is available through the New York State Department of Parks, Recreation and Historic Preservation, Field Services Unit.

RESOURCE DEMANDS AND MANAGEMENT CONSTRAINTS ON THE UNIT

The Leatherstocking Management Unit offers a number of diverse resources. Legislation, industry, individuals and DEC alike have influence on these resources.

The flexibility of management programs is governed by the degree of restrictions imposed by legislative mandates and Department policies, rules and regulations.

I. Management Constraints

The management plan has been developed within the constraints set forth by the Environmental Conservation Law (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 of 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 Environmental Quality Bond Act of 1972
- ECL Article 52 - Implementation of Environmental Quality Bond Act of 1986
- ECL Article 71 - Enforcement

B. **Parks, Recreation & 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 - Subchapter A - Implementation of EQBA of 1972
- Chapter X - Division of Water Resources

D. **Department Policies - Divisions of: Lands**

& Forests and Fish , Wildlife and Marine Resources

- Adopt-A-Natural Resource
- Public Use
- Temporary Revocable Permits
- Motor Vehicle Use
- Timber Management
- Unit Mgt. Planning
- Pesticides
- Prescribed Fire
- Draft State Forest Master Plan
- Inventory
- Acquisition
- Road Construction
- Fish Species Management Activities
- Habitat Management Activities
- Public Use Development Activities
- Wild Species Management

E. **Permanent and Ongoing Uses**

The following 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 Agreement

Contracts
Cooperative Research Projects
Reservation of Forest Products for
DEC Operations Sawmill
Communication Tower

II. Resource Demands

Within the constraints listed above, the legislative mandates allow a flexibility of management actions. This flexibility provides the opportunity to balance the available resources with the usage demands from public and industrial sources. The following show the actual and perceived demands on the resources that have formulated the objectives and resultant management actions contained in this plan.

A. Protection of Natural, Historic and Archaeological Resources

There is recognition that protection of soil and water resources is of critical importance. Water quality is important for the welfare of all users, including wildlife, and enhances the enjoyment of water-based recreational pursuits.

Soils are a fundamental component of biological productivity on the area. Any activities which cause erosion or reduce soil fertility must be avoided.

The area has supported human populations since the end of the last ice age. Artifacts of historic and prehistoric origin are present or may be present in many areas.

Because of their cultural significance, disturbance of cultural resources will be avoided. NYS Archaeological Site inventory maps will be checked to identify sites. Visual checks will be made before any harvesting or construction operations take place and a buffer zone will be

maintained around archaeological and historic sites.

B. Public Use and Recreation

State forests are open for the use of the public with no fees and few restrictions. As subdivision, development and posting of surrounding private land continues, the recreational value of state forests increases. Demands on the Unit that have been identified include:

1. Improved access.
2. Additional trails for snowmobiling, hiking, ATV use, bicycling, cross-country skiing and horseback riding.
3. Better hunting & trapping opportunities.
4. Enhanced fishing opportunities.
5. More primitive camping & day-use areas.
6. Nature observation.

C. Plant and Animal Habitats

The value of maintaining healthy populations of both plants and animals is generally well accepted. Through the Biodiversity Law of 1993, there is a legislative requirement to provide for biodiversity on all State lands. The State also has a mandate to protect and manage species that are endangered, threatened or of special concern.

D. Timber Resources

There is a strong market for most of the variety of wood products which are found on State lands. Over the past two decades, the demand for hardwood sawtimber, red pine logs and utility poles and spruce sawlogs has increased. The demand for spruce pulpwood is stable, while the demand for red pine pulpwood and hardwood fuelwood has decreased.

E. Education and Research

It is well recognized that the ultimate survival of the human species depends on a healthy environment. Yet, serious study of the ecosystem as a science began less than a century ago. More information and greater understanding is needed.

As the world's population and standard of living grows, greater pressure is inevitably put on land, water and forests. This pressure is reflected by increasing use of the area for all types of recreation and by substantial increases in the price received for wood products. In many parts of the world these increasing demands result in conflicts and loss of natural habitat.

There is an opportunity to use the Leatherstocking unit as an example of the successful integration of natural use and natural resource protection. If effectively communicated, this will help the public to understand that it is possible to use resources without compromising the viability of the ecosystem. The Department will cooperate with colleges and other groups to assist in research and by providing an outdoor laboratory setting for such study.

The Greenwoods Conservancy is adjacent to Otsego RA #3, Hartwick State Forest, and is managed and monitored by the State University of New York at Oneonta Biology Department as a Field Station for biological studies and research. The Department will endeavor to communicate with Greenwoods Conservancy on issues that are of mutual concern.

THE GOAL OF MANAGEMENT

It is the policy 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 carried out to ensure the biological diversity and protection of the forest ecosystem, and 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.

OBJECTIVES

State Forests are managed for multiple uses including watershed protection, wildlife, timber crops, 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

A 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 242 acres of wetlands.
2. Protect all streams on the unit.
3. Protect the forests against damaging fires, insects and diseases.
4. As resources permit, additional surveys will be made to determine if there are any rare, threatened and endangered plant and animal species on the Unit. Public input on the existence of these species is welcome. If these species are found, they will be protected and

where appropriate, habitat should be manipulated to improve their chances of survival.

5. Protect cultural resources, where they exist, as provided for under the New York State Historic Preservation Act. Protect old house foundations, millsites and stone walls.

6. Protect State lands from trespass by maintaining well marked boundary lines.

7. Control vandalism, dumping, and other illegal activities by regular patrols of the area by Forest Rangers and other DEC staff.

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. The objectives listed below 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 access to this State Forest Unit.

2. Provide maps and informational brochures on the Unit.

3. Identify State land by maintaining boundary lines, posting State Forest signs along public highways and by maintaining State Forest identification signs.

4. Continue present recreational opportunities.

5. Provide additional opportunities provided they are or can be made to be compatible with the other uses on the Unit.

6. Limit access or recreational opportunities where degradation of the Unit's resources are occurring.

7. Provide for trash pick-up on the Unit.

8. Protect and enhance scenic resources including vistas, stone walls, large old growth trees, wildflower beds, dogwoods, pinksters, etc.

9. Identify and enhance opportunities for people with disabilities.

10. Provide opportunities for clubs and organized groups to participate in the Adopt-A-Natural Resource program.

C. Wildlife Objectives

These objectives will enhance the diversity and recreational opportunities related to various wildlife species.

1. Consider the needs of wildlife in all timber management activities and implement wildlife actions concurrent with the implementation of timber management actions to maintain a diversity of native wildlife species at levels compatible with the carrying capacity of the habitat.

2. Maintain wildlife-related recreational opportunity by providing: 5,000 person-trips/year of big and small game hunting and trapping on the area; and 5,000 person-trips/year of other wildlife-related recreational uses such as birding and nature observation/photography.

3. Provide adequate access to meet wildlife-related recreational needs by maintaining all signage and road and trail systems and constructing new roads and trails as additional needs are identified and as forest management actions allow for enhancement of existing facilities..

4. Meet informational needs of wildlife-related recreational users through publication and dissemination of pamphlets, leaflets, brochures and other items informing public of uses provided for on State Forest lands.

5. Rehabilitate the dike and drainage structures on the marsh pond on the Plainfield State Forest, so that the pond may be restored to its original water level.

6. Locate appropriate places on the unit to establish pot holes and wildlife food plots as appropriate.

D. Fishery Management Objectives

This objective will promote a healthy population of fish and ample fishing opportunities.

1. Manage Basswood Pond for trout to provide 750-1500 anglers trips annually and an average length of harvested trout of 10 inches or better.

E. Forest Resource Objectives

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. (See Appendix III).

1. Maintain a variety of tree species and age classes on the unit in order to provide for biodiversity of both flora and fauna.

2. Calculate an annual allowable cut that will allow for a sustained yield of wood products that is within the productive biological capacity of the forest and which does not significantly compromise other resource values.

3. Manage 703 acres of the natural hardwood and mixed natural hardwood/conifers to develop even-aged forests which will be harvested at 100-120 years of age. Some acres presently in plantation will be converted to this type. These stands will be cut every 20 to 30 years.

4. Manage 1,618 acres of the natural hardwood/conifers to develop all-aged forests with maximum age classes of 120-150 years. All the areas needed to fulfill this objective presently exist. These stands will also be cut every 20 to 30 years.

5. Manage 3,206 acres of conifer plantations. These acres are made up of existing and newly established plantations. As the 1930's plantations are harvested, the percentage of plantations on the unit will be reduced over time from 49% to 25% of the total

acreage on the unit. Most of the acreage which is not retained as conifer forest will grow into even aged natural hardwoods. These stands will be thinned every 15 years with a final harvest scheduled for 80 to 100 years of age.

6. Manage 510 acres of natural hardwoods/conifer types with no cutting or removal of timber. These acres will come from the even-aged natural hardwood/conifer type, from the all-aged natural hardwood/conifer type and from the plantation type.

7. Maintain 459 acres in an open-brush or a grassland condition. 218 Acres of this type presently exists. The remaining acres will come from openings in natural stands or by converting some plantations to this type. There will also be additional habitat of this type provided with the annual mowing of the forest access road edges. Some temporary habitat of this type (for 10-20 years) will be created when mature plantations or even-aged natural stands are harvested.

8. Establish 10 acres of new conifer cover for each of the next 20 years through reforestation and natural conifer regeneration.

9. Conduct a forest inventory program on a 20 year cycle.

F. Education and Research Objectives

These objectives will provide for opportunities to learn about the area and natural resource management.

1. Encourage research and educational endeavors 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 conducted by DEC staff.

INFORMATION IN SUPPORT OF THE GOAL AND OBJECTIVES

Article 9, Titles 5 and 7, of the Environmental Conservation Law authorizes the Department of Environmental Conservation to provide for the management of lands outside the Adirondack and Catskill Parks. Management as defined by these laws includes watershed protection, the production of forest products, recreation and kindred purposes. The draft State Forest Land Master Plan provides direction, and a framework for helping to meet these legal mandates.

For the Leatherstocking Management Unit, the land management goal has been established in recognition of the legal mandate and also follows to some extent the guidelines set forth in DEC's draft State Land Master Plan. The goal is a statement that incorporates the potential of the natural resources to provide benefits to as broad a constituent group as possible while maintaining a healthy environment over the long term. In meeting this goal, specific objectives have been listed to direct our management efforts. These objectives are a means of promoting biodiversity and maintaining the health of the plant and animal species on the unit. The objectives will also expand public use opportunities on the unit.

A. Protection Management

Protection of wetlands and the maintenance of 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 water resources. These specialized habitats also add vegetative diversity to the ecosystem.

No commercial timber harvests will take place on the forested wetlands of the unit.

The objective which ensures fire and insect and disease control systems are in place will provide a reasonable measure of protection from unpredictable outbreaks of fire, diseases and insects, as well as providing for the controlled use of fire to accomplish vegetative manipulation.

Those objectives which concern the protection of rare, endangered and threatened plant and animal 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

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 and this plan. Additional recreation opportunities will be provided if and when they are compatible with the other objectives for this unit. Some present uses will be restricted if they become incompatible with other objectives or if those uses are causing resource degradation of the unit.

C. Wildlife Management

Habitat management needs of most wildlife species will be met generally through the implementation of timber and vegetative management actions. Additionally, some wildlife management actions will target the needs of specific species. Adequate public and administrative access must be provided in order to meet use objectives for the Unit. Facilities

must be maintained and informational needs satisfied to insure the user demands of an informed public are met.

D. **Fishery Management**

Basswood Pond

1. Habitat must remain adequate to support trout growth rates averaging 4-5 inches per year for the first 2 growing seasons in the pond. The pond must remain free of non-trout species.
2. Recruitment must remain adequate to support the fishery. Stocking will be required.
3. Adequate public and administrative access must be maintained.
4. Special fishing regulations including a 10 inch minimum size limit and a three fish creel limit will be employed.

E. **Timber Management**

The harvest of pulpwood and timber is a basic objective as well as an important tool for achieving many of the other management objectives for the area. For example, the removal of trees by a logging contractor can be used to make openings in the forest to create wildlife habitat. Tree removal can eliminate diseased or insect infested material that would otherwise spread to surrounding forest. The removal of slow growing trees stimulates the growth of residual trees resulting in a healthier forest. Tree removal results in the creation of skid trails and woods roads which can subsequently be used for recreational trails. Tree removal can be used to create conditions needed for the survival of specific species and thus contributes to the maintenance of biodiversity.

The acreages segregated by rotation age, hardwood/conifer type, plantation, open-grassland and brush land and stands receiving no

treatment as well as snag retention rates, reflect the best information to date for the silvicultural requirements of various tree species and the habitat requirements of a variety of plant and animal species.

All Aged Natural Forest

All-aged natural types provide a range of tree sizes from seedlings and saplings to large trees throughout the stand at all times. These stands provide some of the characteristics of old growth forest (there are always large trees, dead snags, breaks in the canopy, etc. present) and they provide habitat for those species that require these characteristics. However, this type can only be sustained over the long run where shade tolerant species such as hard maple, beech and hemlock, which can regenerate under shaded conditions, are present. These stands are difficult to maintain if deer browsing is heavy.

Even Aged Natural Forest

Even-aged natural types contain trees of one age class, such as seedling-sapling, intermediate, or large sized trees. Each of these size classes provide differing habitats for breeding, forage and shelter for a variety of animal species. Intolerant species such as oak, cherry and ash are often found in even-aged stands since they require extensive sunlight on the forest floor to regenerate and will not reproduce well in full or mixed shade. At the present time, the majority of the stands of this type are in the intermediate size class. More balance is needed between the different age classes in order to maintain diversity. This will partially be obtained as intermediate size trees continue growing into the larger tree class. Additional acreage in the seedling-sapling class will be obtained by clear cutting some plantations and allowing hardwoods to seed in. It may be

some time before a better balance of age classes is achieved.

Plantation Forest

Plantations are another forest type that add to the diversity of the area. Benefits to wildlife include escape and thermal cover, roosting and nesting areas and a food source. Plantation species are often best suited to the hilltop sites that comprise the majority of the Leatherstocking Unit. Sixty year old plantations on these sites often contain three to four times the volume of timber of adjacent 100 year old hardwood stands. Plantations are managed as even-aged types and when they are harvested, they are allowed to regenerate naturally or new plantations are mechanically established.

At the present time, there is not much age diversity within the plantation type on this unit. Most of the plantations were established in the 1930's. Some of them, especially the red pine, are now biologically mature or approaching biological maturity.

Some of these plantations will be harvested by clear cutting resulting in the establishment of new forest stands. The reasons for doing this include the following:

1. Once a stand of plantation pine has reached biological maturity, tree mortality is often extensive, occurring in just a few years. The dead and dying trees have little value for wood products, are often unsightly, constitute a fire hazard, and provide a breeding ground for insects that may threaten healthy trees. In addition, they may create a danger to humans recreating beneath them.
2. Young stands provide benefits, such as escape cover for some wildlife species, that are not provided by the older plantations.
3. Young stands are more vigorous and less susceptible to insect and disease attack.

4. Harvesting some of the mature stands now may alleviate future large scale mortality. In most cases, harvesting will be limited to blocks of 10 acres or less.

5. Establishing new stands now will help insure a future sustained yield of forest products. Hopefully, these new stands will be producing forest products before the last of the 1930's plantations are harvested. The 1930's red pine plantations are scheduled to be harvested over the next 30 years. In the schedule of management actions, only the next 10 years of red pine harvests are listed. This schedule will be reevaluated at the end of that time. Surveys of the 1930's red pine plantations have shown reduced tree vigor in recent years. This is indicated by reduced growth rates and mortality. If there is increased mortality at the ten year reevaluation, the rate of cutting may be increased.

Other Protection Forest

There are 510 acres where timber harvesting will not take place. These areas include stream corridors, areas around ponds and steep slopes. The purpose of these no harvest areas is to filter sediment, preserve vegetation that shades the streams and ponds, inhibit bank erosion, maintain stream integrity, and enhance recreational use. Several small stands will be allowed to go through the natural successional process and these stands will add further diversity to the area. (See fisheries management strategies and fisheries environmental protection for additional justification for this objective).

Adjacent to some of these untreated areas will be areas of the all-aged forest type. These areas, even after a timber harvest, will only have small openings in the forest canopy. This will increase the area of relatively unbroken forest canopy, and when added to the acreage in untreated areas, should provide sufficient

acreage for interior wildlife species requiring the large acreages of unbroken forest canopy.

MANAGEMENT ACTIONS

The following scheduled management actions to achieve the stated objectives are dependent 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.

PROTECTIVE ACTIONS

A. Insect and Disease

Authority to conduct forest insect and disease control activities is found in Title 13, Article 9 of the ECL and Chapter 11 of the New York Codes, Rules and Regulations.

The health of plant populations on the unit will be maintained through the integrated pest management approach. Observations of harmful agents will be made and reported by State personnel. Public reports will be received

and may be investigated. Monitoring of problems will be made. When warranted, appropriate control strategies will be developed to keep damage within acceptable levels.

B. 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 minimum risk to the public.

Numerous public comments have identified a need for an increased law enforcement presence on this Unit. Therefore, it is recommended that an additional Forest Ranger be hired to patrol Otsego County.

The authority to conduct this program is provided by Article 9 of the ECL.

C. Temporary Revocable Permits

Authority for the issuance of temporary use permits is provided by Article 3-030l of the ECL.

Permits may be granted for the temporary use of State land by the public within stated guidelines and legal constraints so as to protect the State lands and their resources.

D. Wetlands

Protection of the significant benefits of wetlands will be sought by adhering to the requirements of ECL 3-030l and 24-1301. In addition, Silvicultural Best Management Practices shall be followed, as will provisions of the Federal Clean Waters Act.

E. Watersheds

Protection of streams and ponds from water quality degradation and visual pollution will be accomplished by adhering to Silvicultural Best Management Practices (BMP's) as detailed in the Timber Management Handbook, Chapter 200.

F. 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 historical site may occur on management unit lands. The SAAF will be updated at the time this plan is updated. The results of the SAAF evaluation indicated that no further cultural resources review is required.

Protection of the cemetery, old house sites and mill sites will be provided for when planning timber harvests and construction projects. Major emphasis for the protection of stonewalls will be placed on those walls that are well preserved. These walls will be protected by limiting damage during felling and skidding. New openings through the walls will only be allowed where absolutely necessary.

G. Public Roads

The removal of logs and pulpwood from State land by logging contractors requires the use of trucks and public roads. Some of these roads are dirt roads without an adequate base

and can be damaged by vehicular use during certain times of the year.

In order to minimize the chance of damage, any active logging operations will be stopped during mud season. In addition, private contractors will be held liable for any damage to public roads as a result of their activities.

PUBLIC USE AND RECREATION ACTIONS

Public use shall be permitted and regulated according to provisions within Title 6, New York Codes, Rules and Regulations as well as special regulations that apply to forests on this Unit. Wherever possible, logging activities will be used to increase recreational opportunities on the Unit. For instance, skid roads may be incorporated into the trail system and some landing areas may be used as parking or camping areas after logging is complete.

1. Maintain the Basswood Pond Day Use and Fishing Access Site.

2. Construct 4 miles of combination hiking/cross country ski trail on Otsego RA #6, Basswood Pond State Forest. Construct a parking area and informational bulletin board on Jacobs Road. An additional bulletin board will be installed at the Fishing Access Area parking lot. See Appendix VIII.

3. Place directional signs to Basswood Pond on the corner of Arnold Road and Jacobs Road, the corner of County Rte. 16 and Jacobs Road and the corner of Jacobs Road and Conservation Road.

4. Continue to provide informational brochures and maps on the Leatherstocking Management Unit to the public from the DEC Offices at Stamford and Schenectady and in boxes on State land.

5. Maintain 55.2 miles of State Forest boundary line on a 7 year cycle. State Forest signs will be put up on all corners and 0.1 mile intervals along all public roads and truck trails.

6. Provide regular patrols by the Forest Rangers to limit unauthorized use of the State Forests.

7. Pursue the acquisition with willing sellers of six private parcels totaling 91 acres. These acquisitions would reduce boundary line maintenance and increase public access.

8. Install "No Motor Vehicles Beyond This Point" signs on several unimproved access roads and haul roads. These roadways will be blocked off if the signs are ignored.

9. Maintain forest access roads through annual cleaning of ditches and culverts, mowing and grading. Resurface and brush forest access roads as needed.

10. Provide the public with an opportunity to view management types ranging from open-wetland, seedling-sapling stands, pole and sawtimber stands to stream corridors with no harvest operations.

11. Top lopping will be done in harvest areas adjacent to public highways or forest access roads. Larger trees will be retained along roadsides wherever possible.

12. Maintain trails annually.

13. Maintain the cemetery and its surrounding stone walls.

14. Construction of built facilities will conform to Americans with Disabilities Act specifications.

15. Where possible, construct or enhance recreational opportunities for people with disabilities.

16. Encourage various clubs and organized groups with interest in the unit, to participate in the Adopt-A-Natural Resource Program. This will provide people with "hands on" land management experiences, while they volunteer to help out with various land management projects on the unit. Applications for this program are available through the Stamford and Schenectady DEC offices.

WILDLIFE ACTIONS

1. Natural hardwood and mixed hardwood/conifer stands will be managed to produce and/or maintain an average of four cavity trees and four snags per acre. Within the 100 foot strip around wetlands, an effort will be made to increase the number of snags and den trees.

2. Manage a minimum of 7% (459 acres) of the unit in an open-grass or brush condition. These openings may include permanently maintained openings or openings that are temporarily in this condition following clearcuts.

3. Deer wintering areas will be delineated and monitored as needed.

4. Provide informational brochures on the Leatherstocking Unit to the public from the DEC offices at Stamford and Schenectady and the kiosks on site.

5. Erect woodduck boxes around ponds and wetlands.

6. Release apple trees to perpetuate them as well as to stimulate bud and fruit production.

7. Reseed logging roads and log landings with herbaceous species having value as wildlife food and cover.

8. Clearcut stands of red pine in several segments of two to ten acres each over a 60 year period. These cuts should be distributed over the unit to create optimum wildlife habitat diversity.

9. Small potholes will be developed where practical.

10. Some of the small water holes built during the 1930's, which have since filled in, will be cleaned out.

11. Maintain approximately 25% of the acreage in plantations at all levels of growth to benefit wildlife species. The early stages of growth are especially important for some species of wildlife, i.e. varying hare, through the

establishment of conifer plantations and their subsequent management, harvest and re-establishment.

12. Favor fruit and mast producing trees whenever they are present in timber sale areas or in non-commercial treatment areas when this is consistent with other management objectives.

13. Protect open wetland areas.

14. Within budget and constraints, thin pole stands to increase browse.

15. In selectively marked stands, make small clearcut openings of 1/4 to 2 acres whenever appropriate.

16. Encourage winter cutting of hardwoods whenever practical.

17. Manage and protect wildlife species through enforcement of the Environmental Conservation Law and pertinent Rules and Regulations.

18. Manage wildlife populations through hunting and trapping regulations developed for wildlife and deer management units.

19. Work with DEC staff from Dam Safety and Engineering to develop a plan for the rehabilitation of the Plainfield State Forest marsh pond. Prepare and submit budget requests as needed to implement the engineering plan.

20. Within budget and constraints, install wildlife food plots on portions of land that have been recently cleared, or on previously cleared sites that are conducive to food plot establishment.

FISHERIES ACTIONS

Species Management, Habitat Management and Public Use

Basswood Pond

1. Basswood Pond will continue to be managed primarily for trout fishing, the specific purpose for which it was designed and built.

2. The growth and vigor of the trout population will be maintained by preventing establishment of reproducing populations by non-

trout fish in the pond and its watershed. The use of fish toxicants in the pond will be required periodically.

3. Rainbow trout will continue to be stocked annually.

4. The dam, spillway and angler parking area will be maintained.

5. The grass area around the pond will be mowed annually to prevent encroachment of trees and brush that will jeopardize dike stability and interfere with fishing.

6. Existing trout angling regulations will be continued for the foreseeable future. These include: Minimum length - 10 inches; Daily limit - 3; Open Season - April 1- October 15. The use of fish as bait, dead or alive is prohibited.

Pond and Water Quality

Habitat and water quality in the ponds and streams must be maintained and improved where possible to promote growth, survival, and/or reproduction of desired fish populations. To assure that adverse impacts are recognized and mitigated, any proposed projects or actions in the watersheds of these ponds and streams should be reviewed carefully by DEC pursuant to State Environmental Quality Review (SEQR) protocols or other appropriate authority.

Projects with the potential to cause the impacts listed below are of particular concern:

a. Water temperature increases.

b. Reduction of streamflow.

c. Reduction in groundwater contribution to streamflows which may be caused by groundwater withdrawals for water supply or other purposes.

d. Increases in turbidity or sedimentation which may be caused by land clearing and construction, or other earthwork operations, especially on steep slopes.

e. Reduction in dissolved oxygen levels.

f. Contravention of any state water quality standard.

- g. Any decline or change in stream bethos.
- h. Any addition of nutrients, especially phosphorous.
- I. Reduction in water transparency.
- j. Any deterrent to fish spawning.
- k. Loss of riparian vegetation.
- l. Loss of habitat due to construction activity.
- m. Stream bed or bank instability.

TIMBER MANAGEMENT ACTIONS

The Timber Management Objectives will be accomplished by using a broad range of silvicultural techniques. This will include the use of cutting methods such as selection, shelterwood, seed tree, and clear cutting. The use of clear cutting will be limited and where applied will generally be kept to ten acres or less.

Sustained wood production will be achieved through the regulation of cutting schedules which target the practices of woodland improvement and harvest on an average control basis. These practices will be applied in an environmentally sound and silviculturally proven manner.

Much of the natural hardwood and natural hardwood/conifer stands will be managed to produce trees of approximately the same age for a maximum of 100-120 years. This is an even-aged management system. Reasons for using this silvicultural method include promoting vigorous tree growth and high value wood production. The more productive sites (Sites I & II) will have intermediate harvest or improvement cuts at 20-25 year intervals. The less productive sites (Site III) will have these cuts at 30 year intervals. Through the regulation of these intermediate and harvest cuts, an equal amount of acreage in all age

classes will be created. On the Leatherstocking Management Unit, it will take several rotations to achieve this regulation. The reason for this is , like the plantations, the majority of the natural stands are in the 60 year age class. These stands will be due for harvest at about the same time, so during this rotation some stands will grow beyond 120 years. Preparations for assuring the regeneration of the forest will be made in advance of the final harvest.

The majority of the higher quality sugar maple/hemlock stands will be managed for trees of all ages on a continuous basis, with individual trees being harvested at a maximum age of 150 years (All Aged Management). Sugar maple and hemlock are two species noted for their longevity and for their ability to regenerate under shaded conditions. At 20-30 year intervals, harvest cuts will be made to maintain a balanced distribution of age classes and promote habitat diversity.

Future red pine and larch plantations will be managed for a maximum of 80 years. Plans call for managing Norway spruce for a maximum of 100 years. As more experience is gained with our 60 year old plantations, these rotations may have to be adjusted. This adjustment will be made in future updates of the plan. Intermediate thinnings and harvest cuts at 15 years for Site I & II stands and at 20 years for Site III stands will maintain the health and vigor of the trees. Releasing may be necessary in some cases to maintain the vigor of young plantations. This will involve eliminating the competition from undesirable species by mechanical means or through the use of herbicides. Most new plantations will be established through planting, but some Norway spruce will be established through natural regeneration.

Site preparation will be necessary to reforest some plantation sites and to achieve desirable regeneration in some natural stands.

Site preparation may include prescribed burning, limited herbicide application, mechanical methods or a combination of these.

Natural hardwood and mixed hardwood/conifer stands will be managed to produce and/or maintain an average of four snags per acre. A snag is a tree which provides specific wildlife habitat needs for cavity nesting birds and mammals as well as a foraging site for insect eating birds.

Forest inventory on all stands of the unit will be conducted at least every 20 years. In addition, all stands will be reinventoried after treatment.

Open grassy areas and brushy herbaceous openings increase forage and provide shelter for wildlife. Openings also enhance the opportunity to view wildlife. These areas may be maintained through harvest cuts, non-commercial cuttings, mowing or by prescribed burning. Where appropriate, new haul roads and landings will be mowed and maintained as grassland.

For a listing of Management Actions, see Appendix III.

COORDINATIVE ACTIONS

If a proposed management action will affect an adjoining landowner, notification and coordination of activities may be required.

These actions include, but are not limited to trail networks and road construction or rehabilitation. ECL regulations and local codes provide procedural requirements for other types of actions such as herbicide application and prescribed burning.

DATA COLLECTION ACTIONS

1. Inventory of all forest stands of the unit will be conducted at least once every 20 years. In addition, all stands will be reinventoried after silvicultural treatment.

2. Pursue a survey of the unit for endangered, rare or threatened plant species and plant communities.

BORROW PIT ACTIONS

Shale from the four pits on the unit (Appendix II) will occasionally be used to surface or rehabilitate the forest access roads. If there is a need for more than 1,000 tons/year from one pit, a mined land plan will be made for that pit according to the Mined-Land Reclamation Law. When the shale from a portion of the pit has been depleted, that portion of the pit will be reclaimed according to the plan in Appendix IV.

TEN YEAR SCHEDULE OF MANAGEMENT ACTIONS

A. Timber Harvesting & Improvement Cuts - See Appendix III for schedule of stands

B. Apple Tree Release and Rehabilitation

<u>State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
3	A-29	10	1998
5	D-8	4	1999
5	D-31	2	1999
5	D-34	2	1999
5	D-14	7	2000
8	B-13	2	2000
8	B-23	1	2001
8	A-7	15	2001-2002
5	C-3	40	2003-2006
3	A-23	8	2007

C. Maintained Herbaceous Openings

<u>State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
Otsego #8	A-20	7	1998
Otsego #5	A-2	7	1999
Otsego #3	A-27	8	2000
Otsego #8	B-22	7	2001
Otsego #5	D-14	7	2002
Otsego #8	A-20	8	2003
Otsego #5	D-27	3	2004
Otsego #5	A-27	8	2005
Otsego #3	A-27	8	2006
Otsego #8	A-20	8	2007

D. Boundary Line Maintenance

<u>State Forest</u>	<u>Miles</u>	<u>Years</u>
3	13.6	2002
5	15.2	1998+
8	12.3	2003
12	11.1	2003
6	7.1	2004

E. Maintenance of Public Forest Access Roads & Haul Roads

Annual maintenance of the public forest access roads includes ditch and culvert clean

out, head wall reconstruction, grading and mowing. Some haul roads are mowed to keep them open.

<u>State Forest</u>	<u>Mileage</u>
3	2.9
5	5.5
6	3.9
8	1.4
12	<u>3.0</u>
	16.6

F. Forest Inventory

<u>State Forest</u>	<u>Year</u>
3	2009
5	2010
6	2007
8	2011
12	2008

G. Trail Maintenance

All existing and proposed trails will be cleared and brushed annually. Signs will be replaced as needed.

H. Parking Maintenance

All existing and proposed parking areas will have litter picked up annually and will be rehabilitated as needed.

J. Litter Pickup

Litter will be picked up on an annual basis as resources permits.

K. Construction Projects

Year - 1999

1. Construct 4 miles of combination hiking/cross country ski trail on Otsego RA #6, Basswood Pond State Forest.

Year - 2000

1. Install a handicapped accessible parking area and informational bulletin board on Jacobs Road. Install an additional bulletin board at the Day Use Area parking lot.

2. Place directional signs to Basswood Pond on the corner of County Rte. 16 and Jacobs Road, the corner of Jacobs Road and Conservation Road.

Year - 2001

1. Construct pot holes on Otsego #3;B-4 and Otsego #12;B-20.

Year - 2002

1. Construct pot holes on Otsego #5;D-13 , D-14, D-23.

Year - 2003

1. Construct pot holes on Otsego #6;A-26, A-41.

Year - 2004

1. Construct pot holes on Otsego #8;A-26, A-36, B-19.

CONSTRUCTION PROJECT COSTS

	<u>Cost</u>	<u>Year</u>
1. Construct hiking/cross country ski trail	\$ 500	1999
2. Construct parking area on Jacobs Road(4 car)	2,000	2000
3. Put up 2 bulletin boards for trail system	500	2000
4. Put up 3 directional signs to Basswood Pond State Forest (Otsego #6)	250	2000
5. Miscellaneous wildlife habitat improvement projects, as outlined in the plan.	3,000	1999-2004
6. Construct 2 pot holes	2,000	2001
7. Construct 3 pot holes	3,000	2002
8. Construct 2 pot holes	2,000	2003
9. Construct 3 pot holes	3,000	2004

ANNUAL MAINTENANCE COSTS *

1. Public Forest Access road maintenance	\$4,150	16.6 miles
2. Trail Maintenance	\$3,040	14 miles
3. Wildlife Management Projects	\$ 910	9.1 acres
4. Fisheries Projects	\$2,000	Stock 1 pond
5. Site Preparation & Reforestation	\$2,500	10 acres
6. Boundary Line Maintenance	\$1,071	11.9 miles
7. Land Acquisition Costs	\$45,500	91 acres

* Does not include Inmate labor from the Summit Shock Camp.

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- (7) Integrating Timber and Wildlife Management Handbook, Robert E. Chambers, published by SUNY College of ESF, NYSDEC, October, 1983.
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GLOSSARY

APPENDICES