

LEBANON HILLS
UNIT MANAGEMENT PLAN

A Management Unit
Consisting of Three State Forests
in Southeastern Madison County

Prepared by:

Richard G. Pancoe, Senior Forester, Project Leader
Robert L. Slavicek, Senior Forester

New York State Department of Environmental Conservation
Lands and Forests Office
Box 594, Route 80 West
Sherburne, New York 13460

Telephone 607-674-4036

PREFACE

It is the policy of the Department to manage State Forests for multiple uses to serve the People of New York State. The Lebanon Hills Unit Management Plan is the basis for supporting specific objectives and strategies to support multiple use. The plan has been developed to support management activities on this Unit for the next 20 years with a review and update due in 10 years. It should be noted that factors such as wood product markets, budget and staffing constraints and forest health problems may necessitate deviations from the schedule.

Article 9, Titles 5 and 7, of the Environmental Conservation Law authorizes the Department of Environmental Conservation 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 State Forest Land Master Plan provides the overall direction and framework for meeting this legal mandate.

KEY WORDS

All-aged system - A program of forest management directed to the establishment and maintenance of stands of trees having several or perhaps all potential ages. The guidelines and methods employed for this system differ greatly from the even-aged system.

Cavity trees - Trees containing an excavation sufficiently large for nesting, denning or shelter; tree may be alive or dead. (Chambers)

Cultural resources - Significant historical or archeological assets on sites as a result of past human activity which are distinguishable from natural resources.

Ecosystem - All the interacting populations of plants, animals, and microorganisms occupying an area, plus their physical environment. The living organisms in an ecosystem are collectively called a community, sometimes natural community or biotic community. (Hunter)

Even-aged system - A program of forest management directed to the establishment and maintenance of stands of trees having relatively little (10-15 years) variation in ages. The guidelines to be applied in using this system at all stages of tree development are uniquely different from the All-aged system.

Forest rotation - The period of years required to establish and grow timber crops to a specified

maturity. Rotation being the predetermined time frame between successive harvest/regeneration cuts in a given stand under even-aged management.

Forest stand - Any area of forest vegetation with site conditions, past history and current species composition and age sufficiently uniform to distinguish it from adjacent areas. (Chambers)

Forest successional stages - The various stages of forest stand growth and development ranging from seedling/sapling to mature trees.

Fragmentation - The act or process of breaking into fragments. Forest fragmentation refers to a forested area being modified to have a great variation of stand sizes, structures and composition. Forest fragmentation can result from management actions and be impacted by natural occurrences or manmade features.

Interior Species - Species, vegetative and animal, whose habitat dependence requires significant tracts of unbroken forest types, often sensitive to fragmentation and to varying degrees of disturbance.

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.
(Society of American Foresters)

Protection Forest

Forest land set aside from active management practices as a protection measure for sensitive sites. These sites most often include steep slopes, wet woodlands, and riparian zones along stream corridors.

Reforestation Area - An area consisting of at least 500 contiguous acres of State land. The property would be purchased under the Hewitt Amendment after 1929. One-half the acreage would have been open land and plantable at the time of purchase.

Silviculture - The science and art of cultivating forest crops. The theory and practice of controlling the establishment, composition and growth of forests. (Society of American Foresters - Terminology)

Snags - Dead trees with or without cavities; function as perches, foraging sites and/or a source of cavities for denning, roosting and/or nesting. (Chambers)

Timber Stand Improvement (TSI) - Precommercial silvicultural treatments, typically thinnings intended to control stand density and species composition while improving stand quality and fostering individual tree health and vigor.

Water Quality Classes - A system of classification in ECL Article 17 which presents a ranked

listing of the State's surface waters by the letters AA, A, B, C or D according to certain quality standards and specifications. AA is the highest quality rank and has the greatest suitability for man's usage.

Wetland Classes - A system of classification set forth in ECL Article 24, section 664.5 which ranks wetlands I through IV based upon wetland functions and benefits, I being the highest rank.

(DEC publication WM-P11, 6/80)

TABLE OF CONTENTS

PREFACE i

KEY WORDS ii

TABLE OF CONTENTS vi

MAP OF THE UNIT 1

INTRODUCTION

 A. History of State Forests 2

 B. History of The Lebanon Hills Management Unit 3

INFORMATION ON THE UNIT

 A. Geographical and Geological Information 5

 B. Land Classifications and Stages Within the Unit 7

 C. Wetlands and Water Resources 8

 D. Significant Plants and Plant Communities 8

 E. Cultural Resources 9

 F. Roads 9

 G. Wildlife 11

 H. Recreation 12

 I. Other Facilities 12

 J. Other Uses 13

RESOURCE DEMANDS AND MANAGEMENT CONSTRAINTS ON THE UNIT 13

RESOURCE DEMANDS 13

A. Timber Resources	14
B. Public Use and Recreation	14
C. Demands for Diverse Plant and Animal Communities	15
D. Watershed Protection	15
E. Land Management Research Programs	15
MANAGEMENT CONSTRAINTS	15
A. Environmental Conservation Laws	16
B. New York Code Rules and Regulations	16
C. Permanent, Ongoing, and Occasional Uses	16
D. Department Policies	17
E. Physical Constraints	17
THE GOAL OF MANAGEMENT	17
OBJECTIVES	18
A. Land Management	18
Table I - Present and Objective Ecotype Distribution	20
B. Public Use and Recreation	20
Figure I - Lebanon Hills Unit Ecotype Distribution	21
C. Watershed Protection	22
D. Fire, Insect and Disease Management	22
E. Natural Resource Research and Data Collection	22
INFORMATION IN SUPPORT OF THE GOAL AND OBJECTIVES	23
LAND MANAGEMENT STRATEGIES	26

Figure II - Forest Size Distribution	30
SPECIFIC LAND MANAGEMENT ACTIONS	31
PUBLIC USE AND RECREATION ACTIONS	38
ACQUISITION ACTIONS	39
SURVEY ACTIONS	39
PROTECTION ACTIONS	40
A. Insect and Disease	40
B. Trespass	40
C. Temporary Revocable Permits	40
D. Wetlands	41
E. Watersheds	41
F. Fire Control, State Land Security and Public Safety	41
G. Cultural Resources	42
COORDINATIVE ACTIONS	42
NATURAL RESOURCE AND DATA COLLECTION ACTIONS	43
BORROW PIT ACTIONS	43
SCHEDULE OF MANAGEMENT ACTIONS	44
A. Silvicultural Treatments	44
B. Coordinative Actions With Forest Products Sales	46
C. Apple Tree Release	46
D. Tree Removal On Stands to Be Mowed or Burned	46
E. Grouse Habitat Management	47

F. Open Land Habitat Maintenance	47
G. Brush Habitat Maintenance	47
H. Site Preparation and Reforestation	47
I. Forest Inventory	48
J. Boundary Line Maintenance	48
K. Boundary Line Surveys	48
L. Maintenance of the Dikes-Madison RA #2	48
M. Maintenance of Public Forest Access Roads	48
N. Construction Projects	49
BUDGET NEEDS	50
REFERENCES	52
APPENDIX I - Watercourses on the Unit	53
APPENDIX II - Occurrence and Protective Status of Wildlife on the Lebanon Hills Management Unit	54
APPENDIX III - Resident Fish Species on the Unit	63
APPENDIX IV - Harvesting Records for Towns of Lebanon and Georgetown	64
APPENDIX V - Property Tax Tables	64
APPENDIX VI - Public Comments	65
APPENDIX VII - Map of Proposed Public Use and Recreation	Projects 69
APPENDIX VIII - Map of Madison #2	70
APPENDIX IX - Map of Madison #7	71

APPENDIX X - Map of Madison #8 72

APPENDIX XI - SEQR Negative Declaration 73

INTRODUCTION

A. History of State Forests

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

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

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

In 1930 Forest Districts were established and the tasks of land acquisition and reforestation were started. 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 Forests. In addition to tree planting, these men were engaged in road and trail building, erosion control, watershed restoration, forest protection and other projects.

During the war years of 1941-1945, very little was accomplished on the reforestation

areas. Plans for further planting, construction, facility maintenance and similar tasks had to be curtailed. However, through postwar funding, conservation projects once again received needed attention. The Park and Recreation Land Acquisition Act of 1960, and the Environmental Quality Bond Acts of 1972 and 1986 contained provisions for the acquisition of State Forest lands. These lands would serve multiple purposes involving the conservation and development of natural resources, including the preservation of scenic areas, watershed protection, forestry and recreation.

Today there are nearly 700,000 acres of State Forest land throughout the State. The use of these lands for a wide variety of purposes such as timber production, hiking, skiing, fishing, trapping and hunting is of tremendous importance economically and to the health and well-being of the people of the State.

B. History of the Lebanon Hills Management Unit

Southern Madison County was inhabited by the Oneida-Iroquois Confederacy. Campgrounds and artifacts have been found along the Chenango River north of Earlville.

The Oneidas supported the British during the Revolutionary War. As a penalty for siding with the British, the Oneidas were forced to cede parts of Madison and Chenango County to New York State by Governor George Clinton in the Treaty of September 22, 1778.

Georgetown - Originally known as "Slab City" for its three slab covered houses, Georgetown was renamed after the first president, George Washington. Georgetown was part of the Town of DeRuyter until April 7, 1815. Early settlers set out to "rid the land of forests" and had to confront bears, panthers and wolves.

Lebanon - Lebanon was created from Hamilton Township on February 6, 1807. The Town of Lebanon was originally purchased in 1794 by Revolutionary War Colonel William S. Smith, who then sold the land to settlers. Colonel Smith married Abigail Adams, daughter of President John Adams. Two of the earliest settlers were Jonathan Bates of Vermont and Enoch Stowell of New Hampshire. Lebanon may have been named after Lebanon, Connecticut, home of many early settlers. However, another origin of the name is attributed to General Erastus Cleveland, a member of the New York State legislature. General Cleveland advocated the bill forming the new township from the Town of Hamilton. The town had no name, and General Cleveland, thinking of the town's magnificent forests, proposed the poetical Biblical name. A stone gristmill, built prior to 1825, was located 1/4 mile east of the present day Lebanon village. The mill dammed a pond covering over 50 acres on Stone Mill Brook. The mill was first owned by Sephus Ostram and later by John Paddleford. As late as 1815, wolves were hunted in the township. The Syracuse and Chenango Valley Railroad opened in 1872 connecting Earlville to Syracuse. While blasting rock for the rail bed near "Rock Cut", north of Earlville, a landslide on Christmas Eve, 1870 killed many Irish rail workers. The rail provided commerce and transportation to local residents, and served as a school bus to children attending Earlville schools. The last passenger train traveled across the rails in 1933. John Buckley originated the famous "Chenango Strawberry Apple" near the village of Lebanon. A family named Willcox settled on the present day Madison #2. Their cemetery can be found there today.

The Atlas of Madison County, N.Y., published in 1875, names many early settlers who occupied the present day State lands.

Madison #2 - O. Hutchins, W.L. Hutchins, E.E. Morgan, D.

Mowrey, C.

Mowrey, Willcox.

Madison #7 - H.C. Wilcox, G. Kerncross, Miss B. Rice, C. Sherman.

Madison #8 - T. Sharp, W. Wilcox, E. Durphy, E. Humphrey, W. Thayer. L.

Martin.

INFORMATION ON THE UNIT

A. Geographical and Geological Information

The Lebanon Hills Unit is located in the Towns of Georgetown and Lebanon in Madison County, between the villages of Georgetown and Earlville. The Lebanon Road and the South Lebanon Road connect the Unit to points east and west.

Three State Forests comprise this management unit:

Madison #2	Earlville State Forest	635 acres
Madison #7	Lebanon State Forest	759 acres
Madison #8	Texas Hill State Forest	<u>704</u> acres
	TOTAL	2098 acres

Elevations range from 1170 to 1940 feet above sea level. The highest point is Texas Hill, where a microwave tower is located. The Unit is in the Allegheny Plateau physiographic province. Ten thousand years ago the receding Wisconsin glacier cut and etched the landscape. It left behind gently rolling flat topped hills, interspersed with low lying river valleys. Steep side slopes and ravines are found adjacent to watercourses, and wetlands are scattered throughout the Unit. The bedrock is composed of shale and siltstone formed from marine sediments during the middle and upper Devonian periods.

The majority of the soils on the Unit are Mardin, Lordstown and Volusia. The soils are heterogeneous mixtures of particles deposited by the glacier (glacial till). These soils are gently sloping to steep, deep to moderately deep, medium textured soils. They range from well drained to poorly drained. These soils have major limitations for crop production. Some soils have a seasonal high water table, low fertility, high acidity and erodibility on steeper slopes. More detailed soils information is contained in the U.S.D.A. publication Soil Survey of Madison County, N.Y.

B. Land Classifications and Stages Within the Unit

<u>Land Classifications</u>	<u>Acres</u>	<u>Acres</u>	<u>Tree Diameters at Breast Height</u>			<u>% of</u>
			<u>1-5"DBH</u>	<u>6-11"DBH</u>	<u>12+DBH</u>	
Ponds		4				<1
Open Land			5			<1
Brush Land		26				1
Wetland			21			1
Mixed Natural Hardwoods and Natural Conifers	222			112	110	11
Natural Hardwoods	788	57		673	58	38
Conifer Plantations	<u>1032</u>			<u>666</u>	<u>366</u>	<u>49</u>
Totals	2098		57	1451	534	100

The above data was compiled from existing inventory records.

Natural hardwood stands contain trees that have been established without human intervention. Sugar maple, red maple, beech, white ash and black cherry are species commonly

found in these stands.

Mixed natural hardwood/natural conifer stands contain trees that have been established without human intervention, and are composed of at least 10% Eastern white pine or Eastern hemlock.

Plantation stands contain trees established by human or mechanical means. These stands contain red pine, Scotch pine or Norway spruce.

Wetlands range from open wet meadows to wooded swamps.

Grasslands and brush lands include grasses, brambles, forbes or early succession shrub communities.

Detailed information about vegetative communities can be found in the DEC publication Ecological Communities of NYS by Carol Reschke.

C. Wetlands and Water Resources

The Lebanon Hills Unit contains no protected wetlands. There are eight wetlands which do not come under the statutory provisions of ECL sections 3-301 and 24-1301 totaling 24 acres. These wetlands will not be disturbed.

<u>State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Status</u>
Madison #2	A-13	3	Unprotected
Madison #2	A-17	1	Unprotected
Madison #2	A-18	1	Unprotected
Madison #2	A-37	2	Unprotected
Madison #7	A-7		1 Unprotected
Madison #8	A-7		1 Unprotected
Madison #8	A-10	10	Unprotected
Madison #8	A-21	5	Unprotected

Two ponds with earthen dams are located on Madison #2, Stands A-13 and 17.

Each of the Unit's forests have waters with classifications of C, C(t) or D standards. The classification system regulations and accompanying authority are found in ECL Sections 15-O313 and 17-O3O1. Appendix I lists 1.8 miles of watercourses on the Unit. Small, intermittent watercourses are not listed.

Appendix III lists the more common fish species found in some of the Unit's waters. None of the Unit's streams are stocked.

D. Significant Plants and Plant Communities

No rare plant communities or rare, threatened or endangered plants have been identified on the Unit.

E. Cultural Resources

Resources that are culturally important because of their historic significance are protected under the New York State Historic Preservation Act. No sites identified on the N.Y.S. Archeological inventory maps are found on the Unit. A cemetery with gravestones dating to the early 1800's is located on Madison #2.

F. Roads

The State Public Forest Access 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 marked as motor vehicle trails. 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 the 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 wood 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, unpaved and do not provide all-weather access within the Unit. These trails are originally designed for removal of wood products and may be used to meet other management objectives such as recreational trails. These trails are constructed according to Best Management Practices.

The following roads are located within the Unit:

Public Forest Access Roads

Madison #2 - 1.6 miles

Madison #8 - 0.6 miles

Haul Roads

None

Access Trails

Madison #2 - 4 trails - 1.0 miles

Madison #7 - 2 trails - 0.6 miles

Madison #8 - 3 trails - 1.2 miles

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."

No access trails are posted for vehicular use. Vehicles are permitted only on the Public Forest Access Roads and town roads on the Unit. Public Forest Access Roads open for use are signed "Motor Vehicle Trail". All-terrain vehicles are prohibited everywhere on the forest.

G. Wildlife

The Lebanon Hills Unit lies within the Central Appalachian ecological subzone. This ecological region is essentially a raised, glaciated, dissected plateau with elevations ranging between 1000 and 2000 feet above sea level. It is the northern edge of a larger physiographic region encompassing parts of Pennsylvania and other states to the south. Dickinson (1979) described this subzone as a mixture of forest land, old field succession and active dairy farms in a region typified by cold, snowy winters and cool, wet summers.

Within this subzone, Chambers (1983) listed 51 species of mammals, 126 species of birds,

20 species of reptiles and 23 species of amphibians that are possible residents here. Appendix II lists the occurrence of these species which are indigenous to the Unit on a part or full-time basis. The protective status of these species is also listed.

For the listing of breeding birds, the recently published Atlas of Breeding Birds was consulted. It was found from the Atlas surveys that the diversity of breeding birds was very high in the census blocks covering the Lebanon Hills Unit. The following censused species would have a limited distribution or would not occur on the Unit if conifers were not perpetuated:

Hermit thrush	Golden-crowned kinglet
Yellow-rumped warbler	Solitary vireo
Mourning warbler	Magnolia warbler
Canada warbler	Red crossbill
Red-breasted nuthatch	Blackburnian warbler

The Region 7 Wildlife Unit has mapped two potential beaver colony sites on the Unit. No recent deer wintering sites have been identified.

Appendix IV summarizes the Region 7 Wildlife Unit harvest records for 10 years for the entire towns of Georgetown and Lebanon.

H. Recreation

Varied recreational opportunities exist throughout the Unit.

Examples of these opportunities are:

Hunting	Nature Observation
Trapping	Snowmobiling
Fishing	Horseback Riding
Hiking	Cross Country Skiing
Camping	Cross Country Bicycling

I. Other Facilities

Impoundments

Two man-made impoundments are located on Madison #2. The Stand A-17 pond has become a shallow wetland.

Boundary Lines

<u>State Forest</u>	<u>Miles</u>
Madison #2	6.5
Madison #7	8.5
Madison #8	6.8

J. Other Uses

Shale Pits

Madison #2 - A pit is located along the Public Forest Access Road. The excavated shale was used to surface the Public Forest Access Road.

Easements

Madison #2 - A spring house is located in Stand A-29, adjacent to Morgan Road. Spring rights are conveyed to the property across the road.

RESOURCE DEMANDS AND MANAGEMENT CONSTRAINTS ON THE UNIT

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

RESOURCE DEMANDS

Legislative mandates allow a flexibility of management actions. This flexibility must balance the available resources with the usage demands from public and industrial sources and the management constraints that follow. The following show the perceived and actual demands on the resources that have formulated the objectives and resultant management actions.

A. Timber Resources

There is an expressed demand for a variety of forest products grown on the Lebanon Hills Unit. The timber resources of Central New York, which encompasses the Lebanon Hills Unit, are highly sought by forest products industries throughout the State, the Northeast, and other countries.

Red pine from the Unit is sought for log cabins, utility poles, coffin liners, or pressure treated lumber for landscape ties and other uses. Spruce is utilized for the production of quality paper products. Native softwoods are sawn locally for lumber and dimension material. Hardwood sawtimber is used locally or exported to produce high quality furniture, veneer and other products. Firewood demand has leveled off from a peak reached in the 1970's. Timber resources from the Unit are part of a supply to wood products industries that employ 77,000 people statewide.

B. Public Use and Recreation

Existing demands on the Unit include:

1. Access to public land
2. The opportunity for hunting
3. Trails for snowmobiling and hiking
4. The opportunity to view a variety of aesthetically pleasing biological landscapes.
5. The opportunity to view wildlife in its natural setting
6. Trails for ATV use

C. Demands for Diverse Plant and Animal Communities

There is a broad spectrum of habitats on the Unit providing a variety of ecological types (see page 6). The expression of habitat diversity lies in the number of plant and animal species and communities present, known as species richness.

Environmental health is a very high priority issue among concerned citizens. A key expression of this concern is the accented public demand for clean air and water as well as healthy plant and animal life. It is in the interest of all species to maintain healthy and diverse forest ecosystems. There is a direct connection between a healthy environment and human health.

D. Watershed Protection

There is an increasing demand for safe, clean water. Water quality is important for the welfare of all users and enhances the enjoyment of water based recreational pursuits.

E. Land Management Research Programs

The Department has cooperated with colleges and other groups to assist in research for forest health. There is a continuing demand to acquire knowledge of the natural world by

providing an outdoor laboratory setting for many projects.

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, established Policies and Procedures and physical constraints for the administration of the lands involved. The following is a list of applicable laws, regulations, rules, policies and physical constraints which influence 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 Environmental Quality Bond Act/1972
- ECL Article 52 - Implementation of Environmental Quality Bond Act/1986
- ECL Article 71 - Enforcement

B. 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

C. Permanent, Ongoing, and Occasional Uses

These uses are of a permanent or ongoing nature which are regulated by legislative action, memoranda of understanding, deeded rights, leases or easements. They include the following:

Concurrent Use Agreements
Electrical Transmission and Telephone Lines
County, Town and State Roads
Deeded Rights-of-Way
Forest Products Agreement Contracts
Cooperative Research Projects

D. Department Policies

Public Use	Prescribed Fire
Temporary Revocable Permits	State Forest Master Plan
Motor Vehicle Use	Inventory
Timber Management	Acquisition
Unit Management Planning	Road Construction
Pesticides	Recreational Use

E. Physical Constraints

Large acreage in plantations
Geologic properties
Geographic location
Soil Characteristics
Plantation species planted on incompatible soils
Inadequate staffing
Inadequate budget
Vegetative susceptibility to insect or disease attack
Proximity of State Forests
Shape of State Forests

THE GOAL OF MANAGEMENT

It will be 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 carried out to ensure the biological improvement and protection of the ecosystems of the Lebanon Hills Unit, and to optimize the many benefits to the public that these lands provide. This goal will be accomplished through the applied integration of compatible and sound land management practices.

OBJECTIVES

The Unit's resources will be managed under the following objectives to accomplish the goal of management. Management and protection actions will maintain or enhance: wildlife habitat, sensitive areas, water quality, forest productivity, and opportunities for recreation. The objectives will direct vegetative manipulation to achieve the listed ecotype distribution. Vegetative manipulation will largely be achieved through forest management practices.

A. Land Management

1. The perpetuation of a diversity of healthy forest ecotypes will be ensured by the maintenance or establishment of a continuum of forest types and successional stages. This will be accomplished by:
 - a. managing 930 acres as a natural hardwood and mixed natural hardwood/conifer types on a 100 year rotation length using the even-aged

- management system;
- b. managing 51 acres of natural hardwoods on a 60 year rotation length using the even-aged management system. This acreage is designated "short rotation", and contains a significant percentage of aspen and associated species;
 - c. managing 14 acres of plantation softwoods on a 120 year rotation length using the even-aged management system, with eventual conversion to a mixed natural hardwood/conifer type.
 - d. managing 374 acres as natural hardwoods and mixed natural hardwood/conifer types on an all-aged selection system;
 - e. managing 45 acres of natural hardwood and mixed natural hardwood/conifer types as a protection forest; and
 - f. managing 627 acres of plantation conifer species using the even-aged management system with varying rotation lengths ranging from 60 to 100 years. The majority of this acreage in plantation species will be obtained through natural regeneration of Norway spruce.
2. The diversity of wetland and open land ecotypes will be provided by maintaining:
 - a. 6 acres of open land
 - b. 26 acres of brush/shrubland
 - c. 21 acres of wetland
 3. Productive and diverse forest communities will be enhanced by:

- a. maintaining an average of four snags and four cavity trees per acre on all areas capable of producing them, excluding plantations; and
- b. maintaining a downed wood component. This material will consist of either tops of harvested trees, felled cull trees, decaying snags or non-commercial sections of logs.

The ecotype distribution and forest management objectives are presented below and on page 21.

Table I

Present and Objective Ecotype Distribution

<u>LAND CLASSIFICATION</u>	<u>PRESENT ACRES</u>		<u>%</u>	<u>OBJECTIVE ACRES</u>		<u>%</u>
Ponds	4		<1	3		<1
Openland		5		6		<1
Brushland	26		1	26		1
Wetland	21		1	22		1
Conifer Plantations	1030	49		30		
Mixed Natural Hardwoods/ Natural Conifers	224	11	224	11		
Natural Hardwoods	<u>788</u>	<u>38</u>	<u>1090</u>	<u>57</u>		
		2098	100	2098		100

B. Public Use and Recreation

Opportunities for compatible public use and recreation will be provided by:

- 1. maintaining the existing system of public forest access roads
- 2. decreasing inholdings and/or boundary lines through acquisition
- 3. periodic security patrols of the Unit
- 4. increasing public access opportunities
- 5. maintaining a spring for water
- 6. maintaining boundary lines

C. Watershed Protection and Aquatic Management

Watershed protection and aquatic management will be provided by:

1. protecting the water quality of 1.4 miles of classified trout streams C(t), 0.4 miles of class D streams and 3 acres of ponds; and
2. protecting 21 acres of wetlands.

D. Fire, Insect and Disease Management

Fire, Insect and Disease Management will be provided by:

1. an adequate system of fire control and management; and
2. a system of integrated pest management for injurious insect and disease agents.

E. Natural Resource Research and Data Collection

Natural Resource Research and Data Collection will be provided by:

1. supporting cooperative Natural Resource research emphasizing ecological relationships and specific species on the Unit for which more

- information is needed;
2. maintaining a forest resources inventory on a 20 year cycle; and
 3. encourage volunteers to census plant and animal species classified as endangered, threatened or of special concern.

INFORMATION IN SUPPORT OF THE GOAL AND OBJECTIVES

The land management goal for the Lebanon Hills Unit recognizes the legal mandates and guidelines as set forth in the Draft State Forest Master Plan. The goal statement of this plan incorporates the potential of the natural resources to provide benefits to constituent groups while maintaining a healthy environment into the future. In meeting this goal, specific objectives have been listed to direct the Department's management efforts.

The land management objectives mesh multiple use demands with ecosystem management. Local demand exists for a variety of forest products. Recreational opportunities are enhanced with a variety of vegetative cover types and natural features. Species richness is enhanced with a broad diversity of habitats.

Maintaining plantation cover types contributes to the Unit's ecosystem diversity. The existence of certain bird species within the Unit is most likely dependent upon the continuation of conifer cover types. Many local specialized forest product industries and businesses have evolved utilizing the products of management activities in these plantations. Plantations complement some recreational pursuits and enhance aesthetics within the Unit.

Management for distinct forest successional stages, plantations and a blend of forest cover

types creates a diverse forest ecosystem. Ecosystem diversity provides a broad landscape for species diversity to thrive within the distinct forest ecotypes. The following measures will be employed to enhance habitat diversity.

The even-aged management system employed in this Unit will produce a multitude of forest products, a variety of ecosystem habitats and a variety of vegetative cover types and sizes. The even-age system will perpetuate and enhance forest edge. The rotation length will vary dependent primarily on species, cover type and site conditions. The even-aged management system perpetuates distinct forest successional stages. Forest edges created by the stages provide favorable conditions for animal species (i.e. cottontail rabbit) that require distinct habitats for breeding, forage and/or shelter.

The high percentage of plantations on the Unit limits many silvicultural management options. Even-aged management is the most efficient and sound practice. Many of the plantations are planted on soils that cannot sustain them, eliminating the opportunity to practice silvicultural systems that create small openings or patches. These patches create wind funnels that will likely blow over the surrounding conifers. Until the plantations are converted or replaced, even-aged management is the most viable option. The young stands of hardwood established after the removal of the plantations can be evaluated in 30-50 years to determine their management direction. Many even-aged hardwood stands can be managed with patch cuts, shelterwoods or group selections which would mitigate the effects of clear-cutting. It should be noted that many hardwood species, such as oak, hickory, cherry and ash, are intolerant of shade and need full sunlight to grow, requiring heavier cutting regimes to regenerate. These trees provide part of the species richness the plan hopes to achieve.

The all-aged management system employed in this Unit will provide for the establishment and maintenance of many discrete age groups within a stand, ranging in age from seedling and saplings to very large mature trees. This system favors a continuum of forest canopy cover, while producing a variety of forest products. Woodlands that are managed to grow trees to large sizes before harvesting can and do display many of the attributes of old growth character.

Downed, woody material creates habitat for certain species and contributes to nutrient cycling. Setting maximum utilization limits during harvesting operations will provide for the retention of woody material in the form of topwood.

The preservation, protection and enhancement of water and wetland habitats contributes to healthy ecosystems. These habitats fulfill a vital role in providing a link in the food chain for many aquatic and terrestrial animals. The degradation of rivers and lakes and the loss of much of the State's wetland areas over the past century create concern for the future of aquatic resources. Prudent management of the watershed will maintain and potentially improve downstream water quality and its uses.

Public interest to utilize forest lands for a myriad of recreational activities is increasing. Subdivision of private forest lands and restrictions such as posting serve to channel the outdoor recreationist toward State Forest lands.

Public use and recreation will be encouraged when the Unit's existing resources lend themselves to particular recreational activities and when they are compatible with the overall goal of management.

The Unit's management program combines elements of resource protection, enhanced public accessibility and active habitat manipulation. These elements will work in a way which

expands the range of potential public use activities and heightens the quality of the visitors' experiences.

LAND MANAGEMENT STRATEGIES

The Land Management Objectives will be accomplished using a broad range of Management Actions.

Sustained wood production will be achieved through the establishment of cutting schedules which will utilize intermediate and final harvest cuts on an acreage control basis. These planned practices will be applied in an environmentally sound and silviculturally proven manner to achieve the objectives.

Nine hundred thirty (930) acres of natural forests will be managed on an even-aged basis to an average tree age of 100 years on a 20 year cutting cycle. Five hundred twenty five (525) acres of this type presently exist. The balance of the acreage needed to fulfill this objective will come from the conversion of mature or nearly mature conifer plantations to natural hardwoods. Five discrete successional stages will eventually be created. The stages will be composed of the following classes: 20% seedling/sapling (less than 6" Diameter at Breast Height), 20% small pole (6-8" DBH), 20% large pole (9-11" DBH), 20% small sawtimber (12-14" DBH), and 20% medium to large sawtimber (15+" DBH). At 20 year intervals, intermediate harvest cuts will be performed to maintain tree vigor and overall health. Preparations for assuring the renewal of the

forest will be made in advance of the final harvest cut.

The 51 acres to be managed on a 60 year rotation length are predominately aspen forest types best suited to shorter rotations. This action will provide preferred habitat for many upland species.

Three hundred seventy four (374) acres of natural forests will be managed on a continuous basis using the all-aged system. These stands will contain trees of all ages with individual trees being favored to grow into large sawtimber size classes (over 24" DBH). This system will favor the development of a high percentage of trees noted for their longevity. Harvest cuts will be performed to maintain a balanced distribution of all age classes and to sustain a healthy and diverse habitat.

Establishing conifer plantations offered a method of growing trees where the species and spacing could be controlled. In this Unit, stands designated as plantations will be renewed by planting or by natural regeneration of plantation species already established. Soil and site properties, species adaptability, and other factors, will be considered before a site is reforested. Pine will be grown to a maximum of 80 years, while Norway spruce will be grown to a maximum of 100 years. Management activities will favor natural reforestation on about 526 acres. Those 526 acres, consisting predominately of Norway spruce stands will be managed on a 15 year cutting cycle.

Site preparation, preparing the land for planting, is expected to be necessary to reforest the balance of the plantation objective acres. The methods used in preparation may include prescribed fire, herbicide application, or mechanical means.

Forty five (45) acres are classified as protection forests. These are exempt from timber

harvesting and active habitat manipulation. All of this acreage is set aside for protection of stream corridors and steep slopes. These acres have the potential to become climax forests.

Snags and cavity trees will be reserved on all acres capable of producing them. The distribution will be as follows:

<u>Tree Diameter at Breast Height</u>	<u>Cavity Trees</u>	<u>Snags</u>
11 - 17"	2	2
18+"	2	2

Downed wood will be purposefully left in all stands. The following utilization levels will apply to harvested stands:

1. utilization below a top diameter of 6" on softwood sawtimber, hardwood sawtimber, and on integrated sawtimber firewood sales will not be permitted;
2. utilization shall not be down below a 4" top diameter in softwood pulpwood and firewood trees where reasonably straight and sound. Home firewood contracts will be exempt from this utilization requirement. No topwood will be sold as fuelwood after sawtimber harvests except along roads and areas where visual impacts are important;
3. stands requiring site preparation will be exempt from these utilization requirements;
4. utilization standard requirements down to a minimum specified diameter may be determined on a sale by sale basis at the sellers discretion.

Open lands will be mowed or burned on a three year schedule. All mowing or burning will take place after July 15 so as not to interfere with breeding birds. Brushlands will be cut or burned on a five year cycle, or as necessary, to prevent plant succession from advancing.

SPECIFIC LAND MANAGEMENT ACTIONS

These symbols describe the management objectives, types and actions shown in the following table.

Management Objectives

A	All-aged management
BR	Brushland
E	Even-aged 100 year management
G	Grassland
LR	Even-aged 120 year management
P	Plantation
PD	Pond
PR	No silvicultural treatment
SR	Even-aged 60 year management
W	Wetland

Management Types

BrF	Brush Field
NH	Northern Hardwoods
NH-Hem	Northern Hardwoods-Hemlock
NS	Norway Spruce
OF	Open Field
PH	Pioneer Hardwoods
RP	Red Pine
RP-NS	Red Pine-Norway Spruce
RP-SP	Red Pine-Scotch Pine
SP	Scotch Pine
Wet-A	Wetland-Alder
Wet-O	Wetland-Open

Management Actions

B	Burn or Mow	TR	Tree Removal
T	Timber Harvest	P	Pulpwood Cut
CH	Cut Honeysuckle	RA	Release Apple Trees
CC	Clearcut	IT	Intermediate Re
Release		Treatment	

R Replant

RT Release, Thin

The table presents a 20 year schedule of planned management actions referenced by stand number and year of management. Appendix VI contains the inventory maps of the Unit.

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 of the Unit.

Madison #2

1. Construct a vehicular pull-off for recreational access in Stand A-23, along Partridge (Morgan) Road.
2. Construct a vehicular pull-off for recreational access after timber harvesting in Stand A-31 near the NW corner of Stand A-33.
3. Rehabilitate the vehicular pull-off in Stand A-20.
4. Maintain the proposed and existing vehicular pull-offs.
5. Block the access roads beyond the above pull-offs.
6. Block the abandoned road west of the Public Forest Access Road turnaround at the boundary line.
7. Maintain the pond dike in Stand A-13.
8. Test water in spring in Stand A-18.
9. Maintain the spring in Stand A-18.

Madison #7

1. Rehabilitate the access roads in Stands A-1 and 2.

Madison #8

1. Construct a vehicular pull-off for recreational purposes in Stand A-16 east of the stream.
2. Construct a vehicular pull-off for recreational purposes after timber harvesting on log decking areas in Stand A-3.
3. Maintain the proposed vehicular pull-offs.
4. Block the qualified abandoned roads east and south of the Public Forest Access Road turnaround.
5. Pursue abandonment of the above roads.

ACQUISITION ACTIONS

The Department will pursue, through fee simple title the following parcels when funding becomes available:

Madison #2

1. Ten acres south of the Public Forest Access Road between Stands A-11 and 31.

Madison #8

1. Three acres surrounded by Stand A-4.
2. Twenty-three acres south of Stands A-17 and 18.

3. Five acres east of Stand A-22.

SURVEY ACTIONS

Survey the following boundary lines:

Madison #2 - 0.03 miles in the NE corner of
Proposal A
Madison #7 - 0.6 miles south of Proposal A
Madison #8 - 0.04 miles along the west boundary of
Proposal D

PROTECTION ACTIONS

A. Insect and Disease

Authority to conduct forest insect and disease control activities is found in Title 13, Article 9 of the Environmental Conservation Law (ECL) and Chapter II of the New York Codes, Rules and Regulations.

The health of plant and animal 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. Where warranted, appropriate control strategies will be developed to keep damage within acceptable thresholds.

B. Trespass

The following trespasses need resolution:

Madison #7 -
Vehicular crossing of
O.5 chains on
Proposal A

Madison #8 - R.O.W. rights on the abandoned road south of the Public Forest
Access Road turnaround

C. Temporary Revocable Permits

Authority for the issuance of temporary use permits is provided by Articles 9 and 11 of the ECL.

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

D. Wetlands

Protection of the significant benefits of the unprotected wetlands will be sought by adhering to the requirements of ECL 3-O3O1 and 24-13O1 on Freshwater Wetlands Laws. In addition, Silvicultural Best Management Practices shall be followed.

E. Watersheds

Protection of watercourses from water quality degradation and visual pollution will be

accomplished by restricting timber harvesting along riparian zones and wetlands. The forty five acres of protection forests are mostly riparian zones and wet woods found on the unit.

Silvicultural Best Management Practices (BMP's) as detailed in the Timber Management Handbook, Chapter 200, will be observed.

F. 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, human and animal life and facilities.

This program is part of the statewide program and is specifically the responsibility of the Ranger force within the Bureau of Forest Protection and Fire Management.

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

G. 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 this management Unit. The SAAF will be updated at the time this plan is updated. The results of the Structural-Archaeological Assessment Form evaluation indicate that no further cultural resources review is required.

The Willcox cemetery on Madison #2 will be protected from timber harvesting disturbance.

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 exclusive of trail networks and road construction or rehabilitation. SEQR regulations and local codes provide procedural requirements for other types of actions, such as herbicide application and prescribed burning.

NATURAL RESOURCE AND DATA COLLECTION ACTIONS

Timber inventory on all stands of the Unit will be conducted once every 20 years. In addition, all forest stands will be reinventoried after silvicultural treatment.

A census to determine the presence on the Unit of animal or plant species listed as endangered, threatened or special concern will be initiated through volunteer groups and/or Governmental

agencies to obtain baseline data on species occurrence and population shifts.

BORROW PIT ACTIONS

Expand the shale pit on Madison #2 when necessary to rehabilitate the Public Forest Access Road. Unproductive or spent areas will be reclaimed after any major road construction or rehabilitation projects.

Drain the pit during reclamation.

SCHEDULE OF MANAGEMENT ACTIONS

A. Silvicultural Treatments

<u>Year</u>	<u>Madison State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Or Product Removed</u>	<u>Type of Action</u>
1993	7	A-2	63		Pulpwood*
	7	A-20	26		Firewood
	8	A-25	14		Firewood
1994	2	A-7	3		Firewood
	7	A-7	34		Thin Red Pine
	7	A-8	63		Thin Red Pine
1995	2	A-5	5		Remove Red Pine
	2	A-6	1		TSI White Spruce
	2	A-6	5		Thin Red Pine
	2	A-10	1		Firewood
	2	A-12	14		Release Hardwoods
	2	A-15	10		Pulpwood
	2	A-16	15		Pulpwood
	2	A-25	14		Release Hardwoods
	2	A-26	8		Pulpwood
	2	A-29	2		Release Hardwoods
	2	A-29	8		Clearcut, Herbicide
	1996	2	A-4	12	
8		A-1	5		Firewood

	8	A-6	18	Timber Harvest	
	8	A-7	18	Timber, Fwd, Plpwd	
	8	A-14	14	Pulpwood	
1997	7	A-2	64	Thin Red Pine	
	7	A-6	12	Thin Red Pine	
	8	A-2	13	TSI	
1998	2	A-19	2	Pulpwood	
	2	A-20	58	Pulpwood*	
	7	A-4	7	Firewood	
	7	A-5	15	Firewood	
	7	A-12	20	Firewood	
	8	A-6	40	Firewood	
	8	A-13	15	Firewood	
	8	A-22	10	Firewood	
1999	2	A-2	30	Timber Harvest	
	2	A-5	27	Shelterwood	
	7	A-7	9	TSI	
	7	A-10	4	Firewood	
	8	A-25	10	Timber Harvest	
	8	A-26	41	Timber, Fwd, Plpwd	
2000	7	A-1	23	Firewood	
	7	A-15	20	Release Hardwoods	
	7	A-16	5	Remove Red Pine	
	8	A-3	7	Release Hardwoods*	
	8	A-4	10	Release Hardwoods	
	Madison			Type of Action	
<u>Year</u>	<u>State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Or Product Removed</u>	<u>2000</u>
	A-5	4		Release Hardwoods	8
	8	A-19	13	Release Hardwood	
	8	A-3	6	Clearcut/Herbicide*	
	8	A-4	4	Clearcut/Herbicide	
	8	A-5	5	Clearcut/Herbicide	
	8	A-9	10	Pulpwood	
	8	A-14	6	Firewood	
2001	2	A-7	19	Timber Harvest	
	2	A-14	32	Timber Harvest, Fwd	
	2	A-19	24	Thin Red Pine	
	2	A-33	6	Thin Scotch Pine	
	2	A-34	7	Release Hardwoods	
	2	A-34	6	Thin Red Pine	
	2	A-36	4	Clearcut/Herbicide	
	2	A-36	3	Release Hardwoods	
2002	2	A-3	18	Clearcut/Herbicide	

	2	A-3	25	Thin Red Pine		
	7	A-13	23	Firewood		
	8	A-17	2	Firewood		
	8	A-27	6	Pulpwood		
	8	A-28	27	Pulpwood		
2003	2	A-9	19	Pulpwood		
	2	A-11	13	Pulpwood		
	2	A-27	7	Pulpwood		
	7	A-14	1	Firewood		
	7	A-22	24	Firewood		
	8	A-8	17	Thin Pine & Spruce		
	8	A-15	2	Thin Red Pine		
	8	A-18	17	Thin Red Pine		
2004	2	A-38	20	Timber Harvest, Fwd		
	7	A-8	63	Pulpwood		
	8	A-29	13	Firewood		
2005	2	A-23	22	Release Hardwoods		
	2	A-31	49	Pulpwood*		
	8	A-11	29	Firewood		
2006	2	A-4	12	Thin Red Pine		
	2	A-35	10	Pulpwood		
	8	A-1	22	Timber Harvest		
	8	A-27	3	Thin Red Pine		
	8	A-30	2	Thin Red Pine		
	8	A-31	13	Thin Red Pine		
2007	2	A-32	24	Timber Harvest		
	7	A-11	7	Firewood		
	8	A-9	35	Clearcut/Herbicide		
	8	A-9	40	Thin Red Pine		
2008	8	A-6	119	Timber Harvest		
2009	2	A-24	2	Pulpwood		
	2	A-26	16	Pulpwood		
	7	A-7	34	Release Hardwoods		
	7	A-21	10	Release Hardwoods		
	Madison			Type of Action		
<u>Year</u>	<u>State Forest</u>	<u>Stand</u>	<u>Acres</u>	<u>Or Product Removed</u>	2009	7
	A-23	36		Thin Red Pine		
2010	7	A-5	97	Timber Harvest		
2011	8	A-17	11	Timber Harvest		
	8	A-23	17	Thin Red Pine		
	8	A-24	13	Remove Red Pine, Fwd		
	8	A-28	27	Thin Red Pine		
2012	7	A-17	28	Timber Harvest		
	7	A-19	6	Timber Harvest		
	7	A-20	100	Timber Harvest		

*See Coordinative Actions with Forest Products Sales Section

B. Coordinative Actions With Forest Products Sales

Madison #2

- 1998 - Shale the vehicular pull-off in Stand A-20 in conjunction with a pulpwood thinning.
- 2005 - Construct a vehicular pull-off in Stand A-31 in conjunction with a pulpwood thinning.

Madison #7

- 1997 - Rehabilitate the roadway leading to the interior deck in Stand A-2 in conjunction with a Red Pine thinning. Block after completion of sale.

Madison #8

- 2000 - Construct a vehicular pull-off in Stand A-3 in conjunction with a Red Pine harvest.

C. Apple Tree Release

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
8	A-16	10	1994

D. Tree Removal on Stands to be Mowed or Burned

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
7	A-9	1	1993
8	A-12	5	1993

E. Grouse Habitat Maintenance

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Treatment</u>	<u>Year</u>	
7	A-3	4	Cut Aspen	1995	
8	A-20	4	Cut Aspen	1995	8
A-11	9		Cut Aspen	2006	

F. Open Land Habitat Maintenance

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
2	A-1	1	1994
8	A-12	5	1995

The stand will be mowed or burned on a tri-annual basis.

G. Brush Habitat Maintenance

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Treatment</u>	<u>Year</u>	
2	A-10	5	Tree Removal	2009	
2	A-28	2	Cut/release	1993	
			Honeysuckle		
8	A-16	2	Prescribed fire 1995		8 A-20 3
			Prescribed fire 1995		
7	A-9	2	Prescribed fire 1996		

*Burning will be done every fifth year.

H. Site Preparation and Reforestation

<u>Madison</u>	<u>Stand</u>	<u>Acres</u>	<u>Year</u>
2	A-29	8	1996

8		A-3		6		2001
8		A-4		4		2001
	8		A-5		5	2001
2		A-36		4		2002
2		A-3		18		2003
8		A-9		35		2007

I. Forest Inventory

<u>Madison</u>	<u>Acres</u>	<u>Year</u>
2	635	2007
7	759	2007
8	704	2007

J. Boundary Line Maintenance

<u>Madison</u>	<u>Miles</u>	<u>Year</u>
2	6.5	1997
7	8.5	1994
8	6.8	1996

K. Boundary Line Surveys

<u>Madison</u>	<u>Proposal</u>	<u>Year</u>
2	A	1993
7	A	1993
8	D	1993

L. Maintenance of the Dikes - Madison #2

Annual maintenance in Stand A-13 includes mowing, litter pick-up and drop box

inspections. The dike in Stand A-17 will not be maintained.

M. Maintenance of Public Forest Access Roads

Annual maintenance includes culvert cleanout, grading, mowing and litter pick-up. The pit on Madison #2 will continue to serve resurfacing needs.

<u>Madison</u>	<u>Miles</u>
2	1.6
8	0.6

N. Construction Projects

Madison #2

- 1993 - Erect a State Forest identification sign.
Construct a vehicular pull-off for recreational access in Stand A-23.
Block the abandoned road on the western State Boundary Line.
- 1994 - Refurbish Pond by deepening and upgrading the dike.
- 1999 - Block the access trail beyond the rehabilitated vehicular pull-off.

Madison #7

- 1993 - Rehabilitate the access road in Stand A-1.
Erect a State Forest identification sign.

Madison #8

- 1993 - Construct a vehicular pull-off in Stand A-16.
Block the qualified abandoned roads at the State Land boundaries.
Erect a State Forest identification sign.

BUDGET NEEDS

ANNUAL

<u>Maintenance</u>	<u>Unit</u>	<u>Cost</u>	<u>Prof/Tech</u>	<u>Year</u>
1. Mad. #2 & 8 Public Forest Access Roads.	2.2 mi.	\$1,000	-- --	--
2. Mad. #2 Pond Dike	1	300	-- --	--

Administration

1. Wood Products Sales		--	10	20
2. Non-commercial Stand Treatments		--	4	--
3. Coordination w/other Agencies/Offices	--	3	--	
4. Post Treatment Inventory	--	--	2	
5. Suprv., Training, Reporting	--	10	--	
6. Law Env./Fire Detection & Suppression/Disease Control	--	10	--	

PERIODIC

Maintenance

1. Boundary Lines Mad. #2	6.5	\$ 600	--	8	1997
Boundary Lines Mad. #7	8.5	800	--	12	1994
Boundary Lines Mad. #8	6.8	600	--	8	1996
2. Boundary Line Surveys					
Mad. #2	0.03 mi.	1,000	1	--	1993
Mad. #7	0.6 mi.	2,000	1	--	1993
Mad. #8	0.04	1,000	1	--	1993
3. State Forest Signs	3	1,500	--	--	1993
4. Test Water in Spring Mad #2		100	--	2	1993

Development and Construction

1. Acquisition of Desired Properties	41 ac.	80,000	5	--	1993
2. Pond Restoration	3 ac.	5,000	2	--	1994
3. Site Preparation/	8 ac.	2,400	2	--	1996

Reforestation						
4. Site Preparation/ Reforestation	11 ac.	3,500	3	--	2001	
5. Site Preparation/ Reforestation	4	1,200	2	--	2002	
6. Site Preparation/ Reforestation	18 ac.	5,500	5	--	2003	
7. Site Preparation/ Reforestation	35 ac.	10,000	5	--	2007	
<u>Development and Construction</u>	<u>Unit</u>		<u>Cost</u>		<u>Prof/Tech</u>	<u>Year</u> 8.
Construct Vehicular Pull-offs on Mad. #'s 2 & 8	2		2,500	2	--	1993
9. Block Access Roads on Mad. #'s 2 & 8	3		1,500	1	--	1993
10. Block Access Road on Madison #2	1		800	1	--	1999
11. Rehabilitate an Access Road on Madison #7	0.25 mi	15,000		5	--	1993
12. Management Plan Revision	1	--	20	--	2002	

Grand Total:

Annual	\$ 1,300	37	22
Periodic	\$135,000	56	30

REFERENCES

- Anderle, R.F. and J.R. Carroll, The Atlas of Breeding Birds in New York State Cornell University Press, Ithaca, 1988.
- Chambers, R.E., Integrating Timber and Wildlife Management Handbook, S.U.N.Y. College Environmental Science and Forestry and NYS Department of Environmental Conservation, 1983.
- Dickinson, N.R., 1979, A Division of Southern and Western New York State into Ecological Zones, Federal Aid Final Report, Project W-162-R, NYS Department of Environmental Conservation.
- Dunham, Marion B., Lebanon, A Footprint on the Sands of Time, 1976.
- Gotie, R.F., Biological Reconnaissance of the Wildlife Management Areas in Region 7 - Pharsalia W.M.A. Fed. Aid Perf. Report W137D, NYS Department of Environmental Conservation, 1983.
- Hunter, Malcolm L., Jr. Wildlife, Forests and Forestry, Prentice Hall, Englewood, 1990.
- Maxon, S.A., "The Town of Lebanon", Research Paper, 1906.
- Probst, John R. and Thomas R. Crow, "Integrating Biological Diversity and Resources Management" Journal of Forestry, Volume 89: Number 2; pp 12-17.
- Smith, John E., ed., Our County and It's People-Madison County, N.Y., The Boston History Company, 1899.
- Smith, Mollie, "Early Lebanon", Canastota Bee-Journal, September 24, 1975.
- Checklist of the Amphibians, Reptiles, Birds and Mammals of New York State, Including Their Protective Status, NYS Department of Environmental Conservation Publication, 1987.
- Draft Handbook 1989 State Forests Unit Management Planning Handbook, NYS Department

of Environmental Conservation Publication, 1989.

APPENDIX II

Occurrence and Protective Status of Wildlife on the Lebanon Hills Management Unit

The protective status of listed species is based on Federal and State regulations.

Following column entries for common and scientific names is a "protective status" category of two entries: one for Federal and one for New York State. The following definitions apply to the abbreviations and terms used as defined in The Checklist of Amphibians, Reptiles, Birds and Mammals of New York State, Including Their Protective Status.

Federal Definitions

- End - "Endangered Species", determined by the U.S. Department of the Interior to be in danger of extinction throughout all or a significant portion of its range.
- Thr - "Threatened Species" determined by the DEC as likely to become an endangered species within the foreseeable future in New York State, or federally listed as threatened. All such species are fully protected under Environmental Conservation Law.
- UN - "Unprotected" under Federal law.

State Definitions

- End - "Endangered Species", determined by the New York State Department of Environmental Conservation (DEC) to be in imminent danger of extinction or extirpation in New York State, or Federally listed as endangered. All such species are fully protected under New York State's Environmental Conservation Law.
- Spec Conc "Special Concern Species", are those native species which are not yet recognized as endangered or threatened, but for which documented evidence exists relating to their continued welfare in New York State. The Special Concern category, while existing in DEC rules and regulations, does not in itself provide protection. Therefore, a species listed as Special Concern is accompanied by a second notation indicating whether or not such species is otherwise protected.
- Game - Any of a variety of "big game" or "small game" species Species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.
- Prot - "Protected Wildlife" means "wild game, protected wild birds and endangered species of wildlife" as defined in the Environmental Conservation Law.
- Un - "Unprotected" means that the species may be taken at any time without limit; however, a license to take may be required.

Appendix III

RESIDENT FISH SPECIES ON THE UNIT

Stone Mill Brook - surveyed July 1958

Brown trout	Salmo trutta
Blacknose dace	Rhinichthys atratulus
Longnose dace	Rhinichthys cataractae
Creek chub	Semotilus atromaculatus
Margined madtom	Notropis insignis
Common shiner	Notropis cornutus
Sculpins	Cottus sp
Pumpkin seed	Lepomis gibbosus
Burbot	Lota lota
Common stoneroller	Campostoma anomalum
White sucker	Catostomus commersoni

Pleasant Brook - surveyed August 1973

Brown bullhead	Ictalurus nebulosus
Common shiner	Notropis cornutus
White sucker	Catostomus commersoni
Creek chub	Semotilus atromaculatus
Longnose dace	Rhinichthys cataractae
Blacknose dace	Rhinichthys atratulus
Brown trout	Salmo trutta

Appendix IV

Harvesting Records for the Towns of Lebanon and Georgetown

<u>Year</u>	<u>Deer*1</u>		<u>Coyote*2</u>		<u>Beaver*2</u>
	<u>Georgetown</u>	<u>Lebanon</u>			
1980	7.74	4.34	0		0
1981	9.27	5.66	0		2
1982	9.40	6.96	1	1	0
1983	8.67	6.35	1		3
1984	8.82	6.16	3		15
1985	6.72	6.62	3		29
1986	7.42	5.71	2		46
1987	8.92	8.74	7		36
1988	9.30	7.79	1		36
1989	6.02	5.25	-		-

*1 Average deer harvest per square mile of deer range (both sexes)

*2 Combined total for both Towns

Appendix V

PROPERTY TAX TABLES 1990-91

<u>STATE FOREST</u>	<u>TOWN</u>	<u>ACRES</u>	<u>ASSESSMENT</u>	<u>TAXES PAID</u>	
				<u>TOWN</u>	<u>SCHOOL</u>
Madison #2	Lebanon	635.74	\$261,000	1921.43	5809.86
Madison #7	Lebanon	759.02	\$299,800	2207.08	6056.01

Madison #8	Lebn/Gtwn	704.32	\$289,500	2927.77	5645.58
------------	-----------	--------	-----------	---------	---------

Appendix VI

PUBLIC COMMENTS

Many comments on the draft plan were received during the January 6, 1993, public meeting or in written form. Comments were accepted until February 8, 1993. The essential thought will be listed and the staff comment will follow.

LAND MANAGEMENT COMMENTS

COMMENT: Wants the plan to include a strong awareness of the impact of the timber to the local economy and distant mills.

RESPONSE: The plan mentions the demand for forest products and specialized forest products industries and businesses that have evolved to use the products of management actions. See pages 13 and 21. The two thousand acres of commercial forest is a small but contributing part of the state's 15.4 million acres of commercial forest that supply raw material to a forest product industry that employs roughly 88,000 people in this state. Many companies have evolved to specifically utilize, and others depend upon, the state reforestation area softwoods in order to remain in business.

COMMENT: Make part of the plan a public education effort showing silviculture and good forest management.

RESPONSE: State forests continue to serve as examples of good forest management. The longevity of ownership provide the best opportunity for research and demonstration of land management practices. Education is an ongoing initiative of the Department as well as many other private and public organizations. These forests are routinely used for educational tours. Use of information signs on highly visible management actions is one option that could be pursued. Availability of staff time and budget constraints may impede placement of informational signs.

COMMENT: Mill does not want to be forced to totally utilize forest products.

RESPONSE: Recognition of the value of downed wood, plus realization of the adverse economic impact of requiring utilization beyond profitability has resulted in reduction of utilization requirements where appropriate. See Land Management Actions.

COMMENT: Minimize fragmentation. Public land should be large blocks of unfragmented land.

RESPONSE: Varying cover types interspersed with open and brush land, coupled with the narrow shape of the properties make forests fragmented by nature. Most of the Unit will remain in forest cover, with even-aged management creating non-permanent openings. The conversion of much of the plantations to natural hardwoods will reduce forest cover type fragmentation even further.

COMMENT: Forest products industries should be weaned off dependence on timber from public lands. Restrict firewood harvesting from state land. Exclude human disturbance.

RESPONSE: By law, state forests are to be managed for multiple uses including timber harvesting. Forest product harvesting from state forests is beneficial to the local and state economy. The forest management activities help to attain objectives and derive multiple benefits. State Forests provide the needed continuity of ownership and direction for research and demonstration on forest management activities. Firewood harvesting is an economically feasible way to attain management goals. The fuelwood resource is not being depleted.

COMMENT: Wants more open land, favors the plan's biodiversity of ecotypes.

RESPONSE: The draft plan calls for 5 acres to be maintained as grassland. This has been increased to six. The 26 acres of brushland and 21 acres of wetland are relatively open lands. An additional acre was typed into grassland. The draft plan did not recognize the numerous small, less than one acre, openings that exist or will be created as part of land management actions. Significant increase in open land did not seem warranted considering surrounding private land patterns.

COMMENT: Wants an increase in the aspen type acreage and management for grouse habitat.

RESPONSE: All of the current aspen cover types are slated for short rotation management favoring the continuance of aspen. An additional 34 acres of land with a component of aspen will be put into short rotation of that acreage. Even age management practices that typically create habitat very desirable to grouse will result in nearly 16% of the forest retained in the seedling sapling size classes. See Forest Size Distribution page 28.

COMMENT: Develop cutting plans that can be economically harvested with safe modern methods which include meandering strip and row thinning removing 2-3 adjacent rows.

RESPONSE: Prescriptions or cutting plans focus first on meeting management objectives.

Considerations are made to the suitability of equipment to operate within the guidelines of the prescription. As the stands mature, future thinnings will likely be feasible for larger, more automated equipment. Most softwood plantations on this Unit are small stands relatively close to present access roads.

COMMENT: Wants more Protection/Reserve Forest; increase acreage from 1.3% to 10% of Unit.

RESPONSE: Protection Forest acreage has been increased to 45 acres or 2.2% of the forested cover types. An arbitrary figure of 10% is not considered valid on this unit based upon the present landscape character and relative narrow shape of these forests. Without a significant block of forest with appropriate buffers, the full range of values of a Forest Reserve probably cannot be attained and is best left as an option on larger forest units.

COMMENT: Wants restoration of native biodiversity to the Unit including a full complement of species native to the region existing in their pre-colonial compositions. Plan should create old growth forests on the Unit's lands where this ecotype could exist. Restore all flora and fauna extirpated, exclude human disturbance.

RESPONSE: By law, state forests are mandated to be managed for multiple uses, including watershed protection, recreation, timber production, wildlife, and other kindred purposes. Public comment has been heavily in favor of multiple uses and maintaining a diversity of ecosystems. The plan will focus actions toward multiple use management and maintaining a diversity of ecosystems including some land set aside that will become climax forests. Restoring all flora and fauna extirpated and excluding all human disturbances would be outside the mandate of the law. Considering private landownership patterns and the general landscape of the region this would be impractical if not impossible.

COMMENT: Mature forests use more water. Maintain adequate stream flow by not allowing forests to become overmature.

RESPONSE: A study of water yield from forest land in Hubbard Brook, New Hampshire showed an increase in water yield upon removal of a mature overstory. However, the water yield steadily declined as the young forest was developing. Within 4-5 years, water yield was back to pre-harvest levels. Plan emphasis will be on protecting water quality.

COMMENT: Eliminate even-aged management.

RESPONSE: Even-aged management is often the best and only practical method of managing present forest cover types. From a biological perspective, most of the forested acreage on the

Unit is even-aged, resulting from abandonment and reforestation. Even-aged management techniques help to attain many of the objectives of the plan.

PUBLIC USE & RECREATION COMMENTS

COMMENT: Develop interconnecting trail system.

RESPONSE: The Finger Lakes Trail System has expressed no interest in trail development in this unit. The forests within the Unit are separated by numerous private holdings making a state initiated trail system impractical and costly. There are many better opportunities for trail development on other units within the region. Should a private initiative express interest in a trail system crossing portions of the unit, a trail would be considered compatible with goals and objectives.

COMMENT: Trails for ATV's should not be part of the plan.

RESPONSE: Trails for ATV's are not part of the plan. ATV's as a motorized vehicle are only allowed to be used on the public forest access roads.